

EXCELCHEM
Environmental Labs

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ELAP Certificate No. : 2119

29 July 2016

True Khang

RWQC Central Valley

11020 Sun Center Dr. #200

Rancho Cordova, CA 95670

RE: 2016 Sacramento River Synoptic

Workorder number:1606176

Enclosed are the results of analyses for samples received by the laboratory on 06/20/16 13:54. All Quality Control results are within acceptable limits except where noted as a case narrative. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Somers', is written on a light-colored rectangular background.

John Somers, Lab Director

Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TK160620-10	1606176-01	Water	06/20/16 06:45	06/20/16 13:54
TK160620-11	1606176-02	Water	06/20/16 06:45	06/20/16 13:54
TK160620-12	1606176-03	Water	06/20/16 06:45	06/20/16 13:54
TK160620-13	1606176-04	Water	06/20/16 06:45	06/20/16 13:54
TK160620-14	1606176-05	Water	06/20/16 06:45	06/20/16 13:54
TK160620-15	1606176-06	Water	06/20/16 06:45	06/20/16 13:54
TK160620-16	1606176-07	Water	06/20/16 06:45	06/20/16 13:54
TK160620-17	1606176-08	Water	06/20/16 06:45	06/20/16 13:54

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Laboratory Representative

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18


TK160620-10 1606176-01 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/23/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/23/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	99.4 %	% Recovery Limits		70-130					
Surrogate: Toluene-d8	103 %	% Recovery Limits		70-130					
Surrogate: 4-Bromofluorobenzene	92.6 %	% Recovery Limits		70-130					

Pesticides by GC/ECD

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Pesticides by GC/ECD


alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	83.2 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	78.3 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	47.6 %	% Recovery Limits		50-150					" QR-07
Surrogate: Tetrachloro-meta-xylene	60.7 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	2.5	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	20.7 %	% Recovery Limits		10-130				"	
Surrogate: Phenol-d6	21.6 %	% Recovery Limits		10-130				"	

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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	73.3 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	68.4 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	38.2 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	71.4 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	75.9 %	% Recovery Limits		50-170				"	
<i>Surrogate: Triphenyl phosphate</i>	87.7 %	% Recovery Limits		50-170				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCPP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	57.8 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	1.8	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	2.8	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	40.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
Ammonia as N	0.178	0.100	0.0400	"	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	499	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-10 1606176-01 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Wet Chemistry

Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	7.65	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	40.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	36.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	

Total Recoverable Metals

Aluminum	2570	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	34.3	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	9140	100	79.0	"	"	"	"	"	
Copper	6.3	5.0	0.8	"	"	"	"	"	
Iron	2970	20.0	11.5	"	"	"	"	"	
Magnesium	3780	50.0	15.6	"	"	"	"	"	
Manganese	78.8	10.0	0.6	"	"	"	"	"	
Sodium	3800	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	43.4	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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TK160620-10 1606176-01 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8321A

Carbaryl	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
Methomyl	ND	1		"	"	"	"	"	
Methiocarb	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Diuron	ND	1		"	"	"	"	"	
Carbofuran	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
Surrogate: BDMC	94 %	% Recovery Limits		50-150				"	


E200.8

Total Recoverable Titanium	20.8	2		ug/L	'[none]'	06/28/16	07/14/16	E200.8	
Total Recoverable Zinc	ND	10		"	"	"	06/28/16	"	
Total Recoverable Beryllium	ND	1		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Silver	ND	1		"	"	"	06/28/16	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Arsenic	ND	2		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Copper	3.2	2		"	"	"	"	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Nickel	3.4	2		"	"	"	"	"	

EPA 8290A

1,2,3,6,7,8-HxCDD	ND		4.33	pg/L	1464	"	06/29/16	EPA 8290A	DL
1,2,3,7,8,9-HxCDD	ND		4.01	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND		2.35	"	"	"	"	"	DL
OCDF	ND		7.75	"	"	"	"	"	DL
OCDD	15.9			"	"	"	"	"	J
2,3,7,8-TCDF	ND		1.62	"	"	"	"	"	DL

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07/29/16 10:18

TK160620-10 1606176-01 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

2,3,4,7,8-PeCDF	ND		2.15	pg/L	1464	06/28/16	06/29/16	"	DL
1,2,3,7,8-PeCDF	ND		1.99	"	"	"	"	"	DL
Total HpCDD	ND		5.79	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND		2.02	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND		1.38	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND		1.38	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND		4.01	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND		3.16	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDD	ND		5.79	"	"	"	"	"	DL
1,2,3,7,8-PeCDD	ND		4.48	"	"	"	"	"	DL
TEQ	0.00477			"	"	"	"	"	
Total TCDF	ND		1.62	"	"	"	"	"	DL
Total TCDD	ND		1.86	"	"	"	"	"	DL
Total PeCDF	ND		2.15	"	"	"	"	"	DL
Total PeCDD	ND		4.48	"	"	"	"	"	DL
Total HxCDF	ND		2.02	"	"	"	"	"	DL
Total HxCDD	ND		4.33	"	"	"	"	"	DL
Total HpCDF	ND		3.16	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND		1.7	"	"	"	"	"	DL
2,3,7,8-TCDD	ND		1.86	"	"	"	"	"	DL


EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 101 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-1,2,3,4,7,8-HxCDD	67.3			%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-2,3,4,7,8-PeCDF	52.7			"	"	"	"	"
13C-2,3,4,6,7,8-HxCDF	57			"	"	"	"	"
13C-1,2,3,7,8-PeCDF	59.6			"	"	"	"	"
13C-1,2,3,7,8-PeCDD	61.4			"	"	"	"	"
13C-1,2,3,7,8,9-HxCDF	56.9			"	"	"	"	"
13C-2,3,7,8-TCDD	53.2			"	"	"	"	"
13C-1,2,3,6,7,8-HxCDF	63.4			"	"	"	"	"
13C-1,2,3,6,7,8-HxCDD	63.6			"	"	"	"	"
13C-1,2,3,4,7,8,9-HpCDF	63.2			"	"	"	"	"

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TK160620-10 1606176-01 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A Internal Standards

13C-1,2,3,4,6,7,8-HpCDD	67.1			%	1464	06/28/16	06/29/16	"	
13C-2,3,7,8-TCDF	58.9			"	"	"	"	"	
13C-1,2,3,4,6,7,8-HpCDF	61.2			"	"	"	"	"	
13C-OCDD	54.8			"	"	"	"	"	
13C-1,2,3,4,7,8-HxCDF	62.2			"	"	"	"	"	

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Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/23/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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07/29/16 10:18

TK160620-11 1606176-02 (Water)


Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/23/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	97.6 %	% Recovery Limits		70-130				"	
Surrogate: Toluene-d8	101 %	% Recovery Limits		70-130				"	
Surrogate: 4-Bromofluorobenzene	95.8 %	% Recovery Limits		70-130				"	

Pesticides by GC/ECD

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07/29/16 10:18

TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD


alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	84.6 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	79.8 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	47.3 %	% Recovery Limits		50-150					" QR-07
Surrogate: Tetrachloro-meta-xylene	60.0 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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Project Manager: True Khang

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07/29/16 10:18

TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18


TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	18.4 %	% Recovery Limits		10-130		"			
Surrogate: Phenol-d6	17.3 %	% Recovery Limits		10-130		"			

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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	56.9 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	60.1 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	41.4 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	64.2 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	76.1 %	% Recovery Limits		50-170				"	
<i>Surrogate: Triphenyl phosphate</i>	87.1 %	% Recovery Limits		50-170				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	66.0 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	1.4	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	2.5	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	42.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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Wet Chemistry

Ammonia as N	0.117	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	97.0	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	7.73	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	37.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	38.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	


Total Recoverable Metals

Aluminum	731	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	19.0	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	8700	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	888	20.0	11.5	"	"	"	"	"	
Magnesium	3240	50.0	15.6	"	"	"	"	"	
Manganese	34.6	10.0	0.6	"	"	"	"	"	
Sodium	3340	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	40.8	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
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Project Manager: True Khang

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TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8321A

Carbaryl	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
Carbofuran	ND	1		"	"	"	"	"	
Diuron	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Methiocarb	ND	1		"	"	"	"	"	
Methomyl	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
Surrogate: BDMC	96 %	% Recovery Limits		50-150				"	

E200.8

Total Recoverable Arsenic	ND	2		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Beryllium	ND	1		"	"	"	"	"	
Total Recoverable Zinc	ND	10		"	"	"	"	"	
Total Recoverable Copper	ND	2		"	"	"	"	"	
Total Recoverable Nickel	ND	2		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Silver	ND	1		"	"	"	06/28/16	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Titanium	9.26	2		"	"	"	07/14/16	"	
Total Recoverable Cadmium	ND	1		"	"	"	06/28/16	"	

EPA 8290A

TEQ	0.00618			pg/L	1464	"	06/29/16	EPA 8290A	
Total TCDD	ND		2.32	"	"	"	"	"	DL
OCDF	ND		9.45	"	"	"	"	"	J
Total PeCDF	ND		2.39	"	"	"	"	"	DL
Total HxCDF	ND		3.3	"	"	"	"	"	DL
Totals HpCDF	ND		3.38	"	"	"	"	"	DL

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TK160620-11 1606176-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

Total HpCDD	ND	6.44	pg/L	1464	06/28/16	06/29/16	"	DL
Total TCDF	ND	1.7	"	"	"	"	"	DL
Total PeCDD	ND	5.39	"	"	"	"	"	DL
2,3,7,8-TCDD	ND	2.32	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND	2.12	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDD	ND	6.44	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND	2.98	"	"	"	"	"	DL
OCDD	20.6		"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND	4.42	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND	4.71	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND	2.11	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND	3.3	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND	2.26	"	"	"	"	"	DL
2,3,4,7,8-PeCDF	ND	2.39	"	"	"	"	"	DL
2,3,7,8-TCDF	ND	1.7	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND	3.38	"	"	"	"	"	DL
1,2,3,7,8-PeCDD	ND	5.39	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND	2.56	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDD	ND	4.39	"	"	"	"	"	DL
Total HxCDD	ND	4.71	"	"	"	"	"	DL

EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 104 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-1,2,3,7,8-PeCDF	58.7	%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-2,3,4,6,7,8-HxCDF	53.6	"	"	"	"	"
13C-2,3,4,7,8-PeCDF	52.2	"	"	"	"	"
13C-2,3,7,8-TCDD	56.7	"	"	"	"	"
13C-2,3,7,8-TCDF	60.5	"	"	"	"	"
13C-OCDD	50.5	"	"	"	"	"
13C-1,2,3,6,7,8-HxCDF	59.2	"	"	"	"	"
13C-1,2,3,6,7,8-HxCDD	60.5	"	"	"	"	"
13C-1,2,3,4,7,8-HxCDD	61.2	"	"	"	"	"
13C-1,2,3,4,7,8,9-HpCDF	60.8	"	"	"	"	"

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EPA 8290A Internal Standards

13C-1,2,3,4,6,7,8-HpCDF	54.5			%	1464	06/28/16	06/29/16	"	
13C-1,2,3,4,6,7,8-HpCDD	63.4			"	"	"	"	"	
13C-1,2,3,7,8-PeCDD	61.8			"	"	"	"	"	
13C-1,2,3,4,7,8-HxCDF	59.2			"	"	"	"	"	
13C-1,2,3,7,8,9-HxCDF	53.4			"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18


TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	98.1 %	% Recovery Limits		70-130					
Surrogate: Toluene-d8	102 %	% Recovery Limits		70-130					
Surrogate: 4-Bromofluorobenzene	93.6 %	% Recovery Limits		70-130					

Pesticides by GC/ECD

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TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD

alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	85.1 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	80.9 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	58.0 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	64.5 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	%	% Recovery Limits		10-130				"	QR-07
Surrogate: Phenol-d6	%	% Recovery Limits		10-130				"	QR-07

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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	%	% Recovery Limits	10-130					"	QR-07
Surrogate: 2-Fluorobiphenyl	%	% Recovery Limits	10-130					"	QR-07
Surrogate: 2,4,6-Tribromophenol	%	% Recovery Limits	10-130					"	QR-07
Surrogate: Terphenyl-d14	0.200 %	% Recovery Limits	10-130					"	QR-07

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	3.22 %	% Recovery Limits		50-170				"	QR-07
<i>Surrogate: Triphenyl phosphate</i>	%	% Recovery Limits		50-170				"	QR-07

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	61.2 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	4.0	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	6.5	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	66.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Wet Chemistry

Ammonia as N	ND	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	166	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	7.95	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	89.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	62.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	


Total Recoverable Metals

Aluminum	591	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	25.3	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	12100	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	556	20.0	11.5	"	"	"	"	"	
Magnesium	5040	50.0	15.6	"	"	"	"	"	
Manganese	18.1	10.0	0.6	"	"	"	"	"	
Sodium	8370	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	51.8	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8321A

Diuron	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
Carbofuran	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Methiocarb	ND	1		"	"	"	"	"	
Methomyl	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
Carbaryl	ND	1		"	"	"	"	"	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
Surrogate: BDMC	102 %	% Recovery Limits		50-150				"	

E200.8

Total Recoverable Nickel	ND	2		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Zinc	ND	10		"	"	"	"	"	
Total Recoverable Beryllium	ND	1		"	"	"	"	"	
Total Recoverable Arsenic	ND	2		"	"	"	"	"	
Total Recoverable Copper	2.5	2		"	"	"	"	"	
Total Recoverable Titanium	4.44	2		"	"	"	07/14/16	"	
Total Recoverable Selenium	ND	2		"	"	"	06/28/16	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Silver	ND	1		"	"	"	06/28/16	"	

EPA 8290A

OCDD	20			pg/L	1464	"	06/29/16	EPA 8290A	J
Total PeCDD	ND		6.09	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND		3.58	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND		2.09	"	"	"	"	"	DL
2,3,4,7,8-PeCDF	ND		4.08	"	"	"	"	"	DL
2,3,7,8-TCDF	ND		1.98	"	"	"	"	"	DL

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RWQC Central Valley
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Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

TEQ	0.006			pg/L	1464	06/28/16	06/29/16	"	
1,2,3,7,8-PeCDD	ND	6.09	"	"	"	"	"	"	DL
Total HxCDF	ND	2.68	"	"	"	"	"	"	DL
OCDF	ND	10	"	"	"	"	"	"	DL
Total PeCDF	ND	4.08	"	"	"	"	"	"	DL
Total TCDF	ND	1.98	"	"	"	"	"	"	DL
2,3,7,8-TCDD	ND	2.14	"	"	"	"	"	"	DL
Totals HpCDF	ND	3.7	"	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND	3.7	"	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND	3.04	"	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND	1.83	"	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND	6.96	"	"	"	"	"	"	DL
Total TCDD	ND	2.14	"	"	"	"	"	"	DL
Total HpCDD	ND	6.16	"	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDD	ND	6.2	"	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDD	ND	6.16	"	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND	1.83	"	"	"	"	"	"	DL
Total HxCDD	ND	6.96	"	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND	5.97	"	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND	2.68	"	"	"	"	"	"	DL

EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 97.3 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-2,3,4,7,8-PeCDF	43.6		%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-2,3,7,8-TCDD	47.4		"	"	"	"	"
13C-1,2,3,4,6,7,8-HpCDF	47.5		"	"	"	"	"
13C-1,2,3,7,8-PeCDD	49.3		"	"	"	"	"
13C-1,2,3,6,7,8-HxCDD	48.6		"	"	"	"	"
13C-1,2,3,4,7,8-HxCDD	51.7		"	"	"	"	"
13C-1,2,3,7,8-PeCDF	48.2		"	"	"	"	"
13C-1,2,3,4,6,7,8-HpCDD	54.9		"	"	"	"	"
13C-1,2,3,4,7,8,9-HpCDF	52.3		"	"	"	"	"
13C-1,2,3,4,7,8-HxCDF	48.9		"	"	"	"	"

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Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

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07/29/16 10:18

TK160620-12 1606176-03 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A Internal Standards

13C-2,3,4,6,7,8-HxCDF	45.2			%	1464	06/28/16	06/29/16	"	
13C-1,2,3,6,7,8-HxCDF	48.7			"	"	"	"	"	
13C-2,3,7,8-TCDF	52.7			"	"	"	"	"	
13C-OCDD	41.6			"	"	"	"	"	
13C-1,2,3,7,8,9-HxCDF	45.4			"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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Project Number: [none]
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07/29/16 10:18

TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	97.2 %	% Recovery Limits		70-130				"	
Surrogate: Toluene-d8	98.6 %	% Recovery Limits		70-130				"	
Surrogate: 4-Bromofluorobenzene	95.0 %	% Recovery Limits		70-130				"	

Pesticides by GC/ECD

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11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD

alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	82.7 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	74.6 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	42.4 %	% Recovery Limits		50-150					" QR-07
Surrogate: Tetrachloro-meta-xylene	59.5 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	16.5 %	% Recovery Limits		10-130				"	
Surrogate: Phenol-d6	16.1 %	% Recovery Limits		10-130				"	

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TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	65.8 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	70.5 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	24.4 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	71.5 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	<i>3.10 %</i>	% Recovery Limits		<i>50-170</i>				"	<i>QR-07</i>
<i>Surrogate: Triphenyl phosphate</i>	<i>%</i>	% Recovery Limits		<i>50-170</i>				"	<i>QR-07</i>

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid 57.7 %</i>		% Recovery Limits		<i>43-169</i>				"	


Ion Chromatography

Chloride	3.3	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	5.0	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	62.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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TK160620-13 1606176-04 (Water)

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Wet Chemistry

Ammonia as N	ND	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	142	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	8.02	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	61.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	52.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	

Total Recoverable Metals

Aluminum	635	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	25.1	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	11700	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	836	20.0	11.5	"	"	"	"	"	
Magnesium	4660	50.0	15.6	"	"	"	"	"	
Manganese	19.7	10.0	0.6	"	"	"	"	"	
Sodium	7040	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	34.7	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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TK160620-13 1606176-04 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8321A

Methiocarb	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Carbofuran	ND	1		"	"	"	"	"	
Carbaryl	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
Methomyl	ND	1		"	"	"	"	"	
Diuron	ND	1		"	"	"	"	"	
Surrogate: BDMC	94 %	% Recovery Limits		50-150				"	

E200.8

Total Recoverable Zinc	ND	10		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Beryllium	ND	1		"	"	"	"	"	
Total Recoverable Copper	2.8	2		"	"	"	"	"	
Total Recoverable Arsenic	ND	2		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Silver	ND	1		"	"	"	"	"	
Total Recoverable Titanium	4.65	2		"	"	"	07/14/16	"	
Total Recoverable Nickel	ND	2		"	"	"	06/28/16	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	

EPA 8290A

1,2,3,6,7,8-HxCDD	ND		6.7	pg/L	1464	"	06/29/16	EPA 8290A	DL
1,2,3,4,7,8-HxCDD	ND		5.48	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND		2.59	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDD	ND		6.78	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND		3.7	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND		2.06	"	"	"	"	"	DL

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Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

Total HpCDD	ND	6.78	pg/L	1464	06/28/16	06/29/16	"	DL
1,2,3,7,8-PeCDD	ND	7.15	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDD	ND	5.83	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND	3.05	"	"	"	"	"	DL
2,3,4,7,8-PeCDF	ND	3.48	"	"	"	"	"	DL
Total TCDD	ND	2.12	"	"	"	"	"	DL
Total TCDF	ND	1.75	"	"	"	"	"	DL
Totals HpCDF	ND	3.7	"	"	"	"	"	DL
Total HxCDD	ND	6.7	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND	2.07	"	"	"	"	"	DL
OCDF	ND	8.67	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND	3.35	"	"	"	"	"	DL
Total HxCDF	ND	3.05	"	"	"	"	"	DL
TEQ	0.00705		"	"	"	"	"	
OCDD	23.5		"	"	"	"	"	J
2,3,4,6,7,8-HxCDF	ND	2.41	"	"	"	"	"	DL
Total PeCDD	ND	7.15	"	"	"	"	"	DL
2,3,7,8-TCDD	ND	2.12	"	"	"	"	"	DL
2,3,7,8-TCDF	ND	1.75	"	"	"	"	"	DL
Total PeCDF	ND	3.48	"	"	"	"	"	DL


EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 103 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-2,3,4,7,8-PeCDF	45.7	%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-2,3,4,6,7,8-HxCDF	45.5	"	"	"	"	"
13C-1,2,3,4,7,8,9-HpCDF	49.5	"	"	"	"	"
13C-1,2,3,4,6,7,8-HpCDF	48.6	"	"	"	"	"
13C-OCDD	43.2	"	"	"	"	"
13C-1,2,3,7,8-PeCDD	50.7	"	"	"	"	"
13C-1,2,3,4,7,8-HxCDD	55.2	"	"	"	"	"
13C-1,2,3,4,7,8-HxCDF	48.6	"	"	"	"	"
13C-1,2,3,6,7,8-HxCDD	48.9	"	"	"	"	"
13C-2,3,7,8-TCDD	52.1	"	"	"	"	"

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Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A Internal Standards

13C-1,2,3,7,8,9-HxCDF	45.8			%	1464	06/28/16	06/29/16	"	
13C-1,2,3,7,8-PeCDF	50.2			"	"	"	"	"	
13C-1,2,3,6,7,8-HxCDF	49.4			"	"	"	"	"	
13C-1,2,3,4,6,7,8-HpCDD	53.4			"	"	"	"	"	
13C-2,3,7,8-TCDF	55.6			"	"	"	"	"	

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TK160620-14 1606176-05 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-14 1606176-05 (Water)


Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	94.2 %	% Recovery Limits		70-130				"	
Surrogate: Toluene-d8	101 %	% Recovery Limits		70-130				"	
Surrogate: 4-Bromofluorobenzene	96.2 %	% Recovery Limits		70-130				"	

Pesticides by GC/ECD

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Pesticides by GC/ECD

alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	82.4 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	81.8 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	58.8 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	60.2 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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TK160620-14 1606176-05 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	34.8 %	% Recovery Limits		10-130				"	
Surrogate: Phenol-d6	22.8 %	% Recovery Limits		10-130				"	

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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	59.7 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	65.3 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	75.8 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	61.0 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	<i>91.1 %</i>	% Recovery Limits		<i>50-170</i>				"	
<i>Surrogate: Triphenyl phosphate</i>	<i>110 %</i>	% Recovery Limits		<i>50-170</i>				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	<i>69.4 %</i>	% Recovery Limits		<i>43-169</i>				"	


Ion Chromatography

Chloride	8.4	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	18.8	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	94.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-14 1606176-05 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Wet Chemistry

Ammonia as N	0.447	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	253	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	8.03	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	145	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	82.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	

Total Recoverable Metals

Aluminum	729	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	36.9	5.0	1.2	"	"	"	"	"	
Boron	88.0	50.0	0.8	"	"	"	"	"	
Calcium	15500	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	748	20.0	11.5	"	"	"	"	"	
Magnesium	10000	50.0	15.6	"	"	"	"	"	
Manganese	39.1	10.0	0.6	"	"	"	"	"	
Sodium	18800	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	33.2	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-14 1606176-05 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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E200.8

Total Recoverable Zinc	ND	10		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Titanium	4.37	2		"	"	"	07/14/16	"	
Total Recoverable Copper	3	2		"	"	"	06/28/16	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Nickel	2	2		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Beryllium	ND	1		"	"	"	06/28/16	"	
Total Recoverable Silver	ND	1		"	"	"	"	"	
Total Recoverable Arsenic	2.7	2		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	

EPA 8290A

1,2,3,4,6,7,8-HpCDF	ND		5.65	pg/L	1464	"	06/29/16	EPA 8290A	DL
1,2,3,4,6,7,8-HpCDD	ND		9.2	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND		7.02	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND		5.62	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND		2.92	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND		6.39	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND		3.28	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND		3.41	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND		2.9	"	"	"	"	"	DL
OCDD	27.4			"	"	"	"	"	J
2,3,4,7,8-PeCDF	ND		3.5	"	"	"	"	"	DL
Total PeCDF	ND		3.5	"	"	"	"	"	DL
Total PeCDD	ND		6.28	"	"	"	"	"	DL
Total HxCDF	ND		4.36	"	"	"	"	"	DL
2,3,7,8-TCDD	ND		2.21	"	"	"	"	"	DL
OCDF	ND		12.2	"	"	"	"	"	DL
Total HpCDD	ND		9.2	"	"	"	"	"	DL
TEQ	0.00822			"	"	"	"	"	
Total TCDF	ND		2.02	"	"	"	"	"	DL
Totals HpCDF	ND		7.02	"	"	"	"	"	DL
Total TCDD	ND		2.21	"	"	"	"	"	DL

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TK160620-14 1606176-05 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

2,3,7,8-TCDF	ND		2.02	pg/L	1464	06/28/16	06/29/16	"	DL
1,2,3,7,8,9-HxCDD	ND		5.77	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND		4.36	"	"	"	"	"	DL
1,2,3,7,8-PeCDD	ND		6.28	"	"	"	"	"	DL
Total HxCDD	ND		6.39	"	"	"	"	"	DL

EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 89 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-2,3,7,8-TCDF	46.5		%	1464	"	06/29/16	EPA 8290A Internal Standards	
13C-2,3,4,6,7,8-HxCDF	35.1		"	"	"	"	"	H, Ha
13C-1,2,3,4,6,7,8-HpCDF	35.4		"	"	"	"	"	H, Ha
13C-2,3,7,8-TCDD	41.9		"	"	"	"	"	
13C-2,3,4,7,8-PeCDF	37.5		"	"	"	"	"	H, Ha
13C-OCDD	30.8		"	"	"	"	"	H, Ha
13C-1,2,3,7,8-PeCDD	41.7		"	"	"	"	"	
13C-1,2,3,7,8,9-HxCDF	35.5		"	"	"	"	"	H, Ha
13C-1,2,3,6,7,8-HxCDF	38		"	"	"	"	"	H, Ha
13C-1,2,3,6,7,8-HxCDD	39.7		"	"	"	"	"	H, Ha
13C-1,2,3,4,7,8-HxCDF	38.2		"	"	"	"	"	H, Ha
13C-1,2,3,4,7,8-HxCDD	38.3		"	"	"	"	"	H, Ha
13C-1,2,3,4,7,8,9-HpCDF	40.1		"	"	"	"	"	
13C-1,2,3,7,8-PeCDF	40.4		"	"	"	"	"	
13C-1,2,3,4,6,7,8-HpCDD	41.8		"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
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Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18


TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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Rancho Cordova, CA 95670

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Project Number: [none]
Project Manager: True Khang

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TK160620-15 1606176-06 (Water)


Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	95.2 %	% Recovery Limits		70-130					
Surrogate: Toluene-d8	99.3 %	% Recovery Limits		70-130					
Surrogate: 4-Bromofluorobenzene	98.7 %	% Recovery Limits		70-130					

Pesticides by GC/ECD

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TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD

alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	86.1 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	84.0 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	54.6 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	64.5 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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RWQC Central Valley
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Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
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Project Manager: True Khang

Date Reported:
07/29/16 10:18


TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	37.0 %	% Recovery Limits		10-130				"	
Surrogate: Phenol-d6	23.4 %	% Recovery Limits		10-130				"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	65.0 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	62.7 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	70.6 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	60.2 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	88.5 %	% Recovery Limits		50-170				"	
<i>Surrogate: Triphenyl phosphate</i>	101 %	% Recovery Limits		50-170				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	65.8 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	2.9	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	3.6	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	50.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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Rancho Cordova, CA 95670

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Project Number: [none]
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07/29/16 10:18

TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Wet Chemistry

Ammonia as N	0.271	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	126	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	7.83	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	59.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	44.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	


Total Recoverable Metals

Aluminum	828	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	22.2	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	9900	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	846	20.0	11.5	"	"	"	"	"	
Magnesium	3890	50.0	15.6	"	"	"	"	"	
Manganese	40.8	10.0	0.6	"	"	"	"	"	
Sodium	5370	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	92.9	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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E200.8

Total Recoverable Copper	ND	2		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Titanium	4.62	2		"	"	"	07/14/16	"	
Total Recoverable Zinc	ND	10		"	"	"	06/28/16	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Beryllium	ND	1		"	"	"	06/28/16	"	
Total Recoverable Silver	ND	1		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Nickel	ND	2		"	"	"	"	"	
Total Recoverable Arsenic	ND	2		"	"	"	"	"	

EPA 8290A

2,3,4,7,8-PeCDF	ND		3.11	pg/L	1464	"	06/29/16	EPA 8290A	DL
Totals HpCDF	ND		3.86	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDD	ND		4.54	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND		4.53	"	"	"	"	"	DL
2,3,7,8-TCDF	ND		1.91	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND		3.65	"	"	"	"	"	DL
Total PeCDF	ND		3.11	"	"	"	"	"	DL
Total TCDD	ND		2.78	"	"	"	"	"	DL
Total PeCDD	ND		7.33	"	"	"	"	"	DL
Total HxCDF	ND		4.53	"	"	"	"	"	DL
Total HxCDD	ND		4.96	"	"	"	"	"	DL
Total HpCDD	ND		8.74	"	"	"	"	"	DL
TEQ	0.00945			"	"	"	"	"	
Total TCDF	ND		1.91	"	"	"	"	"	DL
OCDF	ND		8.95	"	"	"	"	"	DL
2,3,7,8-TCDD	ND		2.78	"	"	"	"	"	DL
OCDD	31.5			"	"	"	"	"	J
1,2,3,7,8-PeCDF	ND		2.92	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND		4.48	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND		3.45	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND		3.86	"	"	"	"	"	DL

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-15 1606176-06 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

1,2,3,4,6,7,8-HpCDD	ND		8.74	pg/L	1464	06/28/16	06/29/16	"	DL
1,2,3,7,8-PeCDD	ND		7.33	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND		3.06	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND		4.96	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND		3.16	"	"	"	"	"	DL


EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 103 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-2,3,7,8-TCDD	46.9		%	1464	"	06/29/16	EPA 8290A Internal Standards	
13C-2,3,4,7,8-PeCDF	42.9		"	"	"	"	"	
13C-1,2,3,7,8-PeCDF	46.4		"	"	"	"	"	
13C-OCDD	37.6		"	"	"	"	"	H, Ha
13C-1,2,3,7,8,9-HxCDF	41.7		"	"	"	"	"	
13C-1,2,3,6,7,8-HxCDF	44.6		"	"	"	"	"	
13C-2,3,7,8-TCDF	54		"	"	"	"	"	
13C-2,3,4,6,7,8-HxCDF	41.9		"	"	"	"	"	
13C-1,2,3,4,7,8-HxCDF	44.1		"	"	"	"	"	
13C-1,2,3,4,7,8-HxCDD	49.2		"	"	"	"	"	
13C-1,2,3,4,7,8,9-HpCDF	48.7		"	"	"	"	"	
13C-1,2,3,4,6,7,8-HpCDD	49.4		"	"	"	"	"	
13C-1,2,3,6,7,8-HxCDD	46.6		"	"	"	"	"	
13C-1,2,3,7,8-PeCDD	46.6		"	"	"	"	"	
13C-1,2,3,4,6,7,8-HpCDF	42.9		"	"	"	"	"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	ND	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	ND	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	97.4 %	% Recovery Limits		70-130				"	
Surrogate: Toluene-d8	99.8 %	% Recovery Limits		70-130				"	
Surrogate: 4-Bromofluorobenzene	95.8 %	% Recovery Limits		70-130				"	

Pesticides by GC/ECD

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD


alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	84.2 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	79.9 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	57.4 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	63.5 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	2.0	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	40.5 %	% Recovery Limits		10-130		"			
Surrogate: Phenol-d6	28.1 %	% Recovery Limits		10-130		"			

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TK160620-16 1606176-07 (Water)

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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	72.8 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	71.3 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	88.6 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	71.8 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
Surrogate: Tributylphosphate	89.0 %	% Recovery Limits		50-170				"	
Surrogate: Triphenyl phosphate	104 %	% Recovery Limits		50-170				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
Surrogate: 2,4-Dichlorophenylacetic acid	66.0 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	1.8	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	2.8	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	42.0	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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Wet Chemistry

Ammonia as N	ND	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	698	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	7.72	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	28.0	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	38.0	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	

Total Recoverable Metals

Aluminum	1390	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	23.1	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	8870	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	1540	20.0	11.5	"	"	"	"	"	
Magnesium	3530	50.0	15.6	"	"	"	"	"	
Manganese	42.9	10.0	0.6	"	"	"	"	"	
Sodium	3680	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	46.5	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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EPA 8321A

Methiocarb	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
Methomyl	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Diuron	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Carbofuran	ND	1		"	"	"	"	"	
Carbaryl	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Surrogate: BDMC	101 %	% Recovery Limits		50-150				"	


E200.8

Total Recoverable Lead	ND	1		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Zinc	ND	10		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Beryllium	ND	1		"	"	"	06/28/16	"	
Total Recoverable Silver	ND	1		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Nickel	ND	2		"	"	"	"	"	
Total Recoverable Titanium	2.43	2		"	"	"	07/14/16	"	
Total Recoverable Arsenic	ND	2		"	"	"	06/28/16	"	
Total Recoverable Copper	ND	2		"	"	"	"	"	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	

EPA 8290A

1,2,3,4,7,8,9-HpCDF	ND		5.36	pg/L	1464	"	06/29/16	EPA 8290A	DL
1,2,3,4,7,8-HxCDD	ND		4.49	"	"	"	"	"	DL
Total PeCDF	ND		2.37	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND		3.84	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDD	ND		5.52	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND		5.16	"	"	"	"	"	DL

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

1,2,3,6,7,8-HxCDF	ND	2.24	pg/L	1464	06/28/16	06/29/16	"	DL
1,2,3,7,8,9-HxCDD	ND	4.63	"	"	"	"	"	DL
1,2,3,7,8,9-HxCDF	ND	3.18	"	"	"	"	"	DL
Totals HpCDF	ND	5.36	"	"	"	"	"	DL
Total TCDF	ND	1.97	"	"	"	"	"	DL
Total TCDD	ND	2.35	"	"	"	"	"	DL
Total PeCDD	ND	5.87	"	"	"	"	"	DL
1,2,3,7,8-PeCDD	ND	5.87	"	"	"	"	"	DL
Total HxCDF	ND	3.18	"	"	"	"	"	DL
Total HxCDD	ND	5.16	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDF	ND	2.23	"	"	"	"	"	DL
Total HpCDD	ND	5.52	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND	2.25	"	"	"	"	"	DL
TEQ	0.00735		"	"	"	"	"	
2,3,4,6,7,8-HxCDF	ND	2.43	"	"	"	"	"	DL
2,3,7,8-TCDD	ND	2.35	"	"	"	"	"	DL
2,3,7,8-TCDF	ND	1.97	"	"	"	"	"	DL
2,3,4,7,8-PeCDF	ND	2.37	"	"	"	"	"	DL
OCDF	ND	7.84	"	"	"	"	"	DL
OCDD	24.5		"	"	"	"	"	J

EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 105 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-2,3,7,8-TCDD	61.2	%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-1,2,3,4,7,8,9-HpCDF	64.3	"	"	"	"	"
13C-1,2,3,4,6,7,8-HpCDD	69.2	"	"	"	"	"
13C-1,2,3,4,7,8-HxCDD	67.4	"	"	"	"	"
13C-2,3,4,6,7,8-HxCDF	61.1	"	"	"	"	"
13C-1,2,3,7,8,9-HxCDF	61.2	"	"	"	"	"
13C-2,3,4,7,8-PeCDF	58.4	"	"	"	"	"
13C-1,2,3,7,8-PeCDD	64.2	"	"	"	"	"
13C-1,2,3,4,7,8-HxCDF	64.5	"	"	"	"	"
13C-1,2,3,7,8-PeCDF	62.7	"	"	"	"	"

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TK160620-16 1606176-07 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A Internal Standards

13C-1,2,3,4,6,7,8-HpCDF	62.7			%	1464	06/28/16	06/29/16	"	
13C-1,2,3,6,7,8-HxCDF	63.8			"	"	"	"	"	
13C-1,2,3,6,7,8-HxCDD	65.4			"	"	"	"	"	
13C-OCDD	53.5			"	"	"	"	"	
13C-2,3,7,8-TCDF	69			"	"	"	"	"	

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Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

Dichlorodifluoromethane	ND	0.5	0.07	ug/l	AZG0047	06/23/16	06/24/16	EPA 8260B	
Chloromethane	ND	0.5	0.06	"	"	"	"	"	
Bromomethane	ND	0.5	0.05	"	"	"	"	"	
Chloroethane	ND	0.5	0.08	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	0.05	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	0.05	"	"	"	"	"	
Acetone	5.8	5.0	0.1	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	0.05	"	"	"	"	"	
Iodomethane	ND	0.5	0.03	"	"	"	"	"	
Methylene chloride	ND	5.0	0.08	"	"	"	"	"	
Carbon disulfide	ND	0.5	0.06	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	0.04	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
2-Butanone	ND	5.0	0.1	"	"	"	"	"	
2,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	0.03	"	"	"	"	"	
Bromochloromethane	ND	0.5	0.07	"	"	"	"	"	
Chloroform	6.9	0.5	0.05	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	0.05	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	0.02	"	"	"	"	"	
1,1-Dichloropropene	ND	0.5	0.03	"	"	"	"	"	
Benzene	ND	0.5	0.03	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	0.04	"	"	"	"	"	
Dibromomethane	ND	0.5	0.07	"	"	"	"	"	
Trichloroethene	ND	0.5	0.06	"	"	"	"	"	
Bromodichloromethane	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	0.05	"	"	"	"	"	
Toluene	ND	0.5	0.04	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	0.04	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	0.1	"	"	"	"	"	
Tetrachloroethene	ND	0.5	0.08	"	"	"	"	"	
1,3-Dichloropropane	ND	0.5	0.06	"	"	"	"	"	

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Date Reported:
07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Volatile Organic Compounds by GC/MS

2-Hexanone	ND	5.0	0.1	ug/l	AZG0047	06/23/16	06/24/16	"	
Dibromochloromethane	ND	0.5	0.07	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	0.1	"	"	"	"	"	
Chlorobenzene	ND	0.5	0.03	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.5	0.08	"	"	"	"	"	
Ethylbenzene	ND	0.5	0.03	"	"	"	"	"	
m,p-Xylene	ND	1.0	0.09	"	"	"	"	"	
o-Xylene	ND	0.5	0.04	"	"	"	"	"	
Xylenes, total	ND	1.0	0.1	"	"	"	"	"	
Bromoform	ND	0.5	0.03	"	"	"	"	"	
Isopropylbenzene	ND	0.5	0.04	"	"	"	"	"	
Bromobenzene	ND	0.5	0.05	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	0.4	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.5	0.06	"	"	"	"	"	
n-Propylbenzene	ND	0.5	0.04	"	"	"	"	"	
2-Chlorotoluene	ND	0.5	0.03	"	"	"	"	"	
4-Chlorotoluene	ND	0.5	0.05	"	"	"	"	"	
tert-Butylbenzene	ND	0.5	0.02	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.5	0.04	"	"	"	"	"	
sec-Butylbenzene	ND	0.5	0.03	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.5	0.03	"	"	"	"	"	
4-Isopropyltoluene	ND	0.5	0.04	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	0.06	"	"	"	"	"	
n-Butylbenzene	ND	0.5	0.04	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.5	0.07	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	0.02	"	"	"	"	"	
Hexachlorobutadiene	ND	0.5	0.07	"	"	"	"	"	
Naphthalene	ND	0.5	0.04	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.5	0.05	"	"	"	"	"	
Surrogate: Dibromofluoromethane	97.7 %	% Recovery Limits		70-130				"	
Surrogate: Toluene-d8	102 %	% Recovery Limits		70-130				"	
Surrogate: 4-Bromofluorobenzene	92.6 %	% Recovery Limits		70-130				"	

Pesticides by GC/ECD

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TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Pesticides by GC/ECD

alpha-BHC	ND	0.100	0.011	ug/l	AZF0252	06/23/16	06/24/16	EPA 8081A	
beta-BHC	ND	0.100	0.011	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.100	0.013	"	"	"	"	"	
delta-BHC	ND	0.100	0.021	"	"	"	"	"	
Heptachlor	ND	0.100	0.016	"	"	"	"	"	
Aldrin	ND	0.100	0.011	"	"	"	"	"	
Heptachlor epoxide	ND	0.100	0.020	"	"	"	"	"	
gamma-Chlordane	ND	0.100	0.005	"	"	"	"	"	
Endosulfan I	ND	0.100	0.007	"	"	"	"	"	
alpha-Chlordane	ND	0.100	0.006	"	"	"	"	"	
4,4'-DDE	ND	0.100	0.005	"	"	"	"	"	
Dieldrin	ND	0.100	0.006	"	"	"	"	"	
Endrin	ND	0.100	0.007	"	"	"	"	"	
Endosulfan II	ND	0.100	0.021	"	"	"	"	"	
4,4'-DDD	ND	0.100	0.006	"	"	"	"	"	
Endrin aldehyde	ND	0.100	0.006	"	"	"	"	"	
Endosulfan sulfate	ND	0.100	0.005	"	"	"	"	"	
4,4'-DDT	ND	0.100	0.004	"	"	"	"	"	
Endrin Ketone	ND	0.100	0.005	"	"	"	"	"	
Methoxychlor	ND	0.100	0.013	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	86.5 %	% Recovery Limits		50-150					"
Surrogate: Tetrachloro-meta-xylene	80.7 %	% Recovery Limits		50-150					"

PCBs by GC/ECD

Aroclor 1016	ND	1.00	0.0600	ug/l	AZF0252	"	06/24/16	EPA 8082	
Aroclor 1221	ND	1.00	0.130	"	"	"	"	"	
Aroclor 1232	ND	1.00	0.100	"	"	"	"	"	
Aroclor 1242	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1248	ND	1.00	0.0600	"	"	"	"	"	
Aroclor 1254	ND	1.00	0.0900	"	"	"	"	"	
Aroclor 1260	ND	1.00	0.0800	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	166 %	% Recovery Limits		50-150					" QR-07
Surrogate: Tetrachloro-meta-xylene	64.7 %	% Recovery Limits		50-150					"

SemiVolatile Organic Compounds by GC/MS

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TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

N-Nitrosodimethylamine	ND	2.0	0.4	ug/l	AZF0303	06/27/16	06/28/16	EPA 8270C	
Aniline	ND	2.0	0.3	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	2.0	0.6	"	"	"	"	"	
Phenol	ND	2.0	0.3	"	"	"	"	"	
2-Chlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,4-Dichlorobenzene	ND	2.0	0.4	"	"	"	"	"	
Benzyl alcohol	ND	2.0	0.4	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	2.0	0.4	"	"	"	"	"	
2-Methylphenol	ND	2.0	0.4	"	"	"	"	"	
Hexachloroethane	ND	2.0	0.5	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	2.0	0.3	"	"	"	"	"	
Nitrobenzene	ND	2.0	0.7	"	"	"	"	"	
Isophorone	ND	2.0	0.3	"	"	"	"	"	
2-Nitrophenol	ND	5.0	1.2	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.0	0.8	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	2.0	0.4	"	"	"	"	"	
Benzoic acid	ND	30.0	0.5	"	"	"	"	"	
2,4-Dichlorophenol	ND	2.0	0.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Naphthalene	ND	2.0	0.5	"	"	"	"	"	
Hexachlorobutadiene	ND	2.0	0.6	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	2.0	0.6	"	"	"	"	"	
2-Methylnaphthalene	ND	2.0	0.6	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	2.0	0.6	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	5.0	1.6	"	"	"	"	"	
2-Chloronaphthalene	ND	2.0	0.2	"	"	"	"	"	
2-Nitroaniline	ND	2.0	0.4	"	"	"	"	"	
Acenaphthylene	ND	2.0	0.3	"	"	"	"	"	
Dimethyl phthalate	ND	2.0	0.8	"	"	"	"	"	
2,6-Dinitrotoluene	ND	2.0	0.8	"	"	"	"	"	
Acenaphthene	ND	2.0	0.6	"	"	"	"	"	
2,4-Dinitrophenol	ND	10.0	0.3	"	"	"	"	"	
Dibenzofuran	ND	2.0	0.3	"	"	"	"	"	

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TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

2,4-Dinitrotoluene	ND	2.0	0.8	ug/l	AZF0303	06/27/16	06/28/16	"	
4-Nitrophenol	ND	5.0	0.1	"	"	"	"	"	
Fluorene	ND	2.0	0.5	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	2.0	0.5	"	"	"	"	"	
Diethyl phthalate	ND	2.0	0.6	"	"	"	"	"	
Azobenzene	ND	2.0	0.4	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10.0	2.2	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	2.0	0.6	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	2.0	0.8	"	"	"	"	"	
Hexachlorobenzene	ND	2.0	0.6	"	"	"	"	"	
Pentachlorophenol	ND	10.0	2.4	"	"	"	"	"	
Phenanthrene	ND	2.0	0.4	"	"	"	"	"	
Anthracene	ND	2.0	0.3	"	"	"	"	"	
Carbazole	ND	2.0	0.6	"	"	"	"	"	
Di-n-butyl phthalate	ND	2.0	0.4	"	"	"	"	"	
Fluoranthene	ND	2.0	0.6	"	"	"	"	"	
Benzidine	ND	5.0	0.2	"	"	"	"	"	
Pyrene	ND	2.0	1.0	"	"	"	"	"	
Butyl benzyl phthalate	ND	2.0	1.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.0	0.8	"	"	"	"	"	
Benzo (a) anthracene	ND	2.0	0.4	"	"	"	"	"	
Chrysene	ND	2.0	0.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.0	0.7	"	"	"	"	"	
Di-n-octyl phthalate	ND	5.0	0.7	"	"	"	"	"	
Benzo (b) fluoranthene	ND	2.0	0.8	"	"	"	"	"	
Benzo (k) fluoranthene	ND	2.0	1.0	"	"	"	"	"	
Benzo (a) pyrene	ND	5.0	1.2	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	1.6	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	2.0	1.6	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	2.0	1.3	"	"	"	"	"	
3-Methylphenol & 4-Methylphenol	ND	50.0	0.4	"	"	"	"	"	
Surrogate: 2-Fluorophenol	40.7 %	% Recovery Limits		10-130				"	
Surrogate: Phenol-d6	26.1 %	% Recovery Limits		10-130				"	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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SemiVolatile Organic Compounds by GC/MS

Surrogate: Nitrobenzene-d5	68.4 %	% Recovery Limits		10-130					"
Surrogate: 2-Fluorobiphenyl	68.2 %	% Recovery Limits		10-130					"
Surrogate: 2,4,6-Tribromophenol	80.1 %	% Recovery Limits		10-130					"
Surrogate: Terphenyl-d14	75.2 %	% Recovery Limits		10-130					"

Organophosphorus Pesticides

Dichlorvos	ND	0.200	0.156	ug/l	AZF0309	06/27/16	07/06/16	EPA 8141A	
Mevinphos	ND	0.200	0.115	"	"	"	"	"	
TEPP	ND	0.200	0.151	"	"	"	"	"	
Demeton	ND	0.200	0.105	"	"	"	"	"	
Demeton-O	ND	0.200	0.101	"	"	"	"	"	
Ethoprop	ND	0.200	0.0770	"	"	"	"	"	
Naled	ND	0.200	0.169	"	"	"	"	"	
Sulfotep	ND	0.200	0.0950	"	"	"	"	"	
Monocrotophos	ND	0.400	0.0150	"	"	"	"	"	
Phorate	ND	0.200	0.0830	"	"	"	"	"	
Demeton-S	ND	0.200	0.105	"	"	"	"	"	
Dimethoate	ND	0.200	0.0710	"	"	"	"	"	
Diazinon	ND	0.200	0.0650	"	"	"	"	"	
Disulfoton	ND	0.200	0.0690	"	"	"	"	"	
Parathion-methyl	ND	0.200	0.0770	"	"	"	"	"	
Ronnel	ND	0.200	0.0660	"	"	"	"	"	
Malathion	ND	0.200	0.159	"	"	"	"	"	
Dursban (Chlorpyrifos)	ND	0.200	0.0710	"	"	"	"	"	
Fenthion	ND	0.200	0.0670	"	"	"	"	"	
Parathion	ND	0.200	0.0790	"	"	"	"	"	
Trichloronate	ND	0.200	0.0670	"	"	"	"	"	
Gardona (Stirophos)	ND	0.200	0.110	"	"	"	"	"	
Tokuthion (Prothiofos)	ND	0.200	0.0770	"	"	"	"	"	
Merphos	ND	0.200	0.0970	"	"	"	"	"	
Fensulfothion	ND	0.200	0.139	"	"	"	"	"	
Bolstar	ND	0.200	0.0860	"	"	"	"	"	
EPN	ND	0.200	0.124	"	"	"	"	"	
Azinphos-methyl	ND	0.200	0.0270	"	"	"	"	"	
Coumaphos	ND	0.200	0.168	"	"	"	"	"	

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07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Organophosphorus Pesticides

Molinate	ND	0.200	0.0440	ug/l	AZF0309	06/27/16	07/06/16	"	
<i>Surrogate: Tributylphosphate</i>	95.2 %	% Recovery Limits		50-170				"	
<i>Surrogate: Triphenyl phosphate</i>	104 %	% Recovery Limits		50-170				"	

Herbicides

Dalapon	ND	0.600	0.115	ug/l	AZG0024	06/24/16	07/08/16	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.800	0.170	"	"	"	"	"	
4-Nitrophenol	ND	0.600	0.117	"	"	"	"	"	
Dicamba	ND	0.400	0.0800	"	"	"	"	"	
MCP	ND	10.0	0.891	"	"	"	"	"	
Dichloroprop	ND	0.800	0.196	"	"	"	"	"	
2,4-D	ND	0.400	0.0860	"	"	"	"	"	
Pentachlorophenol	ND	0.300	0.0530	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.500	0.0950	"	"	"	"	"	
2,4,5-T	ND	0.500	0.0970	"	"	"	"	"	
Chloramben	ND	0.800	0.00800	"	"	"	"	"	
Dinoseb	ND	0.400	0.0830	"	"	"	"	"	
2,4-DB	ND	0.800	0.157	"	"	"	"	"	
Bentazon	ND	0.600	0.110	"	"	"	"	"	
DCPA	ND	0.400	0.0150	"	"	"	"	"	
Picloram	ND	0.800	0.0200	"	"	"	"	"	
Acifluorfen	ND	0.800	0.157	"	"	"	"	"	
<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	59.9 %	% Recovery Limits		43-169				"	


Ion Chromatography

Chloride	ND	0.5	0.05	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	
Fluoride	ND	0.1	0.08	"	"	"	"	"	
Nitrate (NO3)	ND	0.50	0.08	"	"	"	"	"	
Nitrate as Nitrogen	ND	0.11	0.02	"	"	"	"	"	
Nitrite (NO2)	ND	0.50	0.15	"	"	"	"	"	
Nitrite as Nitrogen	ND	0.15	0.04	"	"	"	"	"	
Perchlorate	ND	2.00	0.0940	ug/l	AZF0337	06/28/16	06/30/16	EPA 314.0	
Sulfate as SO4	ND	0.5	0.1	mg/L	AZF0256	06/21/16	06/21/16	EPA 300.0	

Wet Chemistry

Total Alkalinity	ND	5.00	2.37	mg/L	AZF0330	06/30/16	06/30/16	SM2320B	
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TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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Wet Chemistry

Ammonia as N	0.181	0.100	0.0400	mg/L	AZG0068	07/08/16	07/08/16	SM 4500-NH3 B/H	
Specific Conductance (EC)	872	5.00	1.09	uS/cm	AZF0266	06/22/16	06/22/16	EPA 120.1	
Cyanide	ND	0.00500	0.000900	mg/L	AZF0324	06/28/16	06/29/16	SM 4500CN E	
Hexavalent Chromium	ND	15.0	12.0	ug/l	AZG0023	07/05/16	07/05/16	EPA 7196	
MBAS	ND	0.100	0.0600	mg/L	AZF0277	06/22/16	06/23/16	SM5540C	
pH	6.75	0.100	0.100	pH Units	AZF0264	06/21/16	06/21/16	SM 4500-H+ B	Field
Total Dissolved Solids	ND	15.0	7.68	mg/L	AZF0319	06/24/16	06/29/16	SM 2540C	
Total Hardness	ND	5.00	2.86	"	AZF0314	06/29/16	06/29/16	SM2340B	


Total Recoverable Metals

Aluminum	ND	50.0	24.5	ug/l	AZG0050	07/07/16	07/07/16	EPA 200.7	
Barium	ND	5.0	1.2	"	"	"	"	"	
Boron	ND	50.0	0.8	"	"	"	"	"	
Calcium	ND	100	79.0	"	"	"	"	"	
Copper	ND	5.0	0.8	"	"	"	"	"	
Iron	ND	20.0	11.5	"	"	"	"	"	
Magnesium	ND	50.0	15.6	"	"	"	"	"	
Manganese	ND	10.0	0.6	"	"	"	"	"	
Sodium	ND	200	120	"	"	"	"	"	
Thallium	ND	20.0	2.2	"	"	"	"	"	
Zinc	ND	10.0	0.3	"	"	"	"	"	

Dissolved Metals

Dissolved Aluminum	ND	50.0	24.5	ug/l	AZG0077	07/05/16	07/11/16	EPA 200.7	
Dissolved Arsenic	ND	10.0	1.0	"	"	"	"	"	
Dissolved Iron	28.3	20.0	11.5	"	"	"	"	"	
Dissolved Lead	ND	5.0	0.9	"	"	"	"	"	

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Project Number: [none]
Project Manager: True Khang

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07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8321A

Carbaryl	ND	1		ug/L	A608160	07/04/16	07/04/16	EPA 8321A	
Carbofuran	ND	1		"	"	"	"	"	
Diuron	ND	1		"	"	"	"	"	
Methiocarb	ND	1		"	"	"	"	"	
Oxamyl	ND	1		"	"	"	"	"	
Propoxur	ND	1		"	"	"	"	"	
3-Hydroxycarbofuran	ND	1		"	"	"	"	"	
Linuron	ND	1		"	"	"	"	"	
Aldicarb	ND	1		"	"	"	"	"	
Aldicarb sulfone	ND	1		"	"	"	"	"	
Methomyl	ND	1		"	"	"	"	"	
Aldicarb sulfoxide	ND	1		"	"	"	"	"	
Surrogate: BDMC	95 %	% Recovery Limits		50-150				"	

E200.8

Total Recoverable Beryllium	ND	1		ug/L	'[none]'	06/28/16	06/28/16	E200.8	
Total Recoverable Chromium	ND	3		"	"	"	"	"	
Total Recoverable Cadmium	ND	1		"	"	"	"	"	
Total Recoverable Lead	ND	1		"	"	"	"	"	
Total Recoverable Arsenic	ND	2		"	"	"	"	"	
Total Recoverable Nickel	ND	2		"	"	"	"	"	
Total Recoverable Selenium	ND	2		"	"	"	"	"	
Total Recoverable Silver	ND	1		"	"	"	"	"	
Total Recoverable Zinc	ND	10		"	"	"	"	"	
Total Recoverable Thorium	ND	0.2		"	"	"	07/14/16	"	
Total Recoverable Titanium	ND	2		"	"	"	"	"	
Total Recoverable Copper	ND	2		"	"	"	06/28/16	"	

EPA 8290A

1,2,3,7,8,9-HxCDF	ND		3.24	pg/L	1464	"	06/30/16	EPA 8290A	DL
1,2,3,7,8,9-HxCDD	ND		5.22	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDD	ND		5.48	"	"	"	"	"	DL
1,2,3,6,7,8-HxCDF	ND		2.15	"	"	"	"	"	DL
1,2,3,4,6,7,8-HpCDF	ND		4.28	"	"	"	"	"	DL
2,3,7,8-TCDF	ND		1.95	"	"	"	"	"	DL

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Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A

1,2,3,4,6,7,8-HpCDD	ND		6.68	pg/L	1464	06/28/16	06/30/16	"	DL
1,2,3,4,7,8-HxCDF	ND		2.11	"	"	"	"	"	DL
1,2,3,4,7,8-HxCDD	ND		5.37	"	"	"	"	"	DL
1,2,3,4,7,8,9-HpCDF	ND		5.17	"	"	"	"	"	DL
2,3,4,6,7,8-HxCDF	ND		2.41	"	"	"	"	"	DL
1,2,3,7,8-PeCDF	ND		2.14	"	"	"	"	"	DL
1,2,3,7,8-PeCDD	ND		6.13	"	"	"	"	"	DL
Total HxCDD	ND		5.48	"	"	"	"	"	DL
Total HpCDD	ND		6.68	"	"	"	"	"	DL
Total PeCDD	ND		6.13	"	"	"	"	"	DL
Totals HpCDF	ND		5.17	"	"	"	"	"	DL
Total TCDF	ND		1.95	"	"	"	"	"	DL
Total TCDD	ND		2.25	"	"	"	"	"	DL
Total PeCDF	ND		2.26	"	"	"	"	"	DL
2,3,4,7,8-PeCDF	ND		2.26	"	"	"	"	"	DL
2,3,7,8-TCDD	ND		2.25	"	"	"	"	"	DL
TEQ	0.00858			"	"	"	"	"	
OCDF	ND		10.5	"	"	"	"	"	DL
OCDD	28.6			"	"	"	"	"	J
Total HxCDF	ND		3.24	"	"	"	"	"	DL

EPA 8290A

Surrogate: 37Cl4-2,3,7,8-TCDD 103 % % Recovery Limits 40-135 "

EPA 8290A Internal Standards

13C-1,2,3,7,8,9-HxCDF	49.7		%	1464	"	06/29/16	EPA 8290A Internal Standards
13C-2,3,7,8-TCDD	58.7		"	"	"	"	"
13C-2,3,4,6,7,8-HxCDF	51.7		"	"	"	"	"
13C-1,2,3,7,8-PeCDF	61.9		"	"	"	"	"
13C-1,2,3,6,7,8-HxCDF	55.9		"	"	"	"	"
13C-1,2,3,6,7,8-HxCDD	56.4		"	"	"	"	"
13C-1,2,3,4,7,8-HxCDD	56.1		"	"	"	"	"
13C-1,2,3,7,8-PeCDD	51.9		"	"	"	"	"
13C-1,2,3,4,7,8,9-HpCDF	54.4		"	"	"	"	"
13C-1,2,3,4,6,7,8-HpCDD	54.8		"	"	"	"	"

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TK160620-17 1606176-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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EPA 8290A Internal Standards

13C-1,2,3,4,6,7,8-HpCDF	49.3			%	1464	06/28/16	06/29/16	"	
13C-OCDD	44.8			"	"	"	"	"	
13C-2,3,7,8-TCDF	72.4			"	"	"	"	"	
13C-1,2,3,4,7,8-HxCDF	57.4			"	"	"	"	"	
13C-2,3,4,7,8-PeCDF	56.4			"	"	"	"	"	

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07/29/16 10:18

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0047 - EPA 8260B

Blank (AZG0047-BLK1)

Prepared & Analyzed: 06/22/16

<i>Surrogate: Dibromofluoromethane</i>	<i>12.2</i>			<i>ug/l</i>	<i>12.5</i>		<i>97.3</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.3</i>			<i>"</i>	<i>12.5</i>		<i>98.6</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.0</i>			<i>"</i>	<i>12.5</i>		<i>96.3</i>	<i>70-130</i>			
Dichlorodifluoromethane	ND	0.5		"							
Chloromethane	ND	0.5		"							
Bromomethane	ND	0.5		"							
Chloroethane	ND	0.5		"							
Trichlorofluoromethane	ND	0.5		"							
Trichlorotrifluoroethane	ND	1.0		"							
Acetone	ND	5.0		"							
1,1-Dichloroethene	ND	0.5		"							
Iodomethane	ND	0.5		"							
Methylene chloride	ND	5.0		"							
Carbon disulfide	ND	0.5		"							
trans-1,2-Dichloroethene	ND	0.5		"							
1,1-Dichloroethane	ND	0.5		"							
2-Butanone	ND	5.0		"							
2,2-Dichloropropane	ND	0.5		"							
cis-1,2-Dichloroethene	ND	0.5		"							
Bromochloromethane	ND	0.5		"							
Chloroform	ND	0.5		"							
1,1,1-Trichloroethane	ND	0.5		"							
Carbon tetrachloride	ND	0.5		"							
1,1-Dichloropropene	ND	0.5		"							
Benzene	ND	0.5		"							
1,2-Dichloroethane	ND	0.5		"							
Dibromomethane	ND	0.5		"							
Trichloroethene	ND	0.5		"							
Bromodichloromethane	ND	0.5		"							
1,2-Dichloropropane	ND	0.5		"							
cis-1,3-Dichloropropene	ND	0.5		"							
4-Methyl-2-pentanone	ND	5.0		"							
Toluene	ND	0.5		"							
trans-1,3-Dichloropropene	ND	0.5		"							
1,1,2-Trichloroethane	ND	0.5		"							
Tetrachloroethene	ND	0.5		"							
1,3-Dichloropropane	ND	0.5		"							
2-Hexanone	ND	5.0		"							
Dibromochloromethane	ND	0.5		"							

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Project Manager: True Khang

Date Reported:
07/29/16 10:18

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0047 - EPA 8260B

Blank (AZG0047-BLK1)

Prepared & Analyzed: 06/22/16

1,2-Dibromoethane (EDB)	ND	0.5		ug/l
Chlorobenzene	ND	0.5		"
1,1,1,2-Tetrachloroethane	ND	0.5		"
Ethylbenzene	ND	0.5		"
m,p-Xylene	ND	1.0		"
o-Xylene	ND	0.5		"
Xylenes, total	ND	1.0		"
Bromoform	ND	0.5		"
Isopropylbenzene	ND	0.5		"
Bromobenzene	ND	0.5		"
1,1,2,2-Tetrachloroethane	ND	0.5		"
1,2,3-Trichloropropane	ND	0.5		"
n-Propylbenzene	ND	0.5		"
2-Chlorotoluene	ND	0.5		"
4-Chlorotoluene	ND	0.5		"
tert-Butylbenzene	ND	0.5		"
1,2,4-Trimethylbenzene	ND	0.5		"
sec-Butylbenzene	ND	0.5		"
1,3-Dichlorobenzene	ND	0.5		"
4-Isopropyltoluene	ND	0.5		"
1,4-Dichlorobenzene	ND	0.5		"
1,2-Dichlorobenzene	ND	0.5		"
n-Butylbenzene	ND	0.5		"
1,2-Dibromo-3-chloropropane	ND	0.5		"
1,2,4-Trichlorobenzene	ND	0.5		"
Hexachlorobutadiene	ND	0.5		"
Naphthalene	ND	0.5		"
1,2,3-Trichlorobenzene	ND	0.5		"

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Date Reported:
07/29/16 10:18

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0047 - EPA 8260B

LCS (AZG0047-BS1)

Prepared & Analyzed: 06/23/16


Surrogate: Dibromofluoromethane	11.9			ug/l	12.5		95.0	70-130			
Surrogate: Toluene-d8	12.9			"	12.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	12.2			"	12.5		98.0	70-130			
1,1-Dichloroethene	21.7	0.5		"	20.0		109	80-120			
Benzene	20.2	0.5		"	20.0		101	80-120			
Trichloroethene	18.5	0.5		"	20.0		92.7	80-120			
Toluene	20.8	0.5		"	20.0		104	80-120			
Chlorobenzene	20.7	0.5		"	20.0		103	80-120			

LCS Dup (AZG0047-BS1)

Prepared & Analyzed: 06/22/16

Surrogate: Dibromofluoromethane	12.2			ug/l	12.5		97.2	70-130			
Surrogate: Toluene-d8	12.3			"	12.5		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	12.3			"	12.5		98.5	70-130			
1,1-Dichloroethene	17.9	0.5		"	20.0		89.4	80-120	19.5	15	QR-02
Benzene	19.7	0.5		"	20.0		98.7	80-120	2.40	15	
Trichloroethene	17.9	0.5		"	20.0		89.6	80-120	3.40	15	
Toluene	19.7	0.5		"	20.0		98.4	80-120	5.34	15	
Chlorobenzene	19.7	0.5		"	20.0		98.5	80-120	4.95	15	

Excelchem Environmental Lab.



Laboratory Representative

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0252 - EPA 8081A

Blank (AZF0252-BLK1)

Prepared & Analyzed: 06/23/16

<i>Surrogate: Decachlorobiphenyl</i>	0.409			ug/l	0.400		102	50-150			
<i>Surrogate: Tetrachloro-meta-xylene</i>	0.388			"	0.400		97.0	50-150			
alpha-BHC	ND	0.100		"							
beta-BHC	ND	0.100		"							
gamma-BHC (Lindane)	ND	0.100		"							
delta-BHC	ND	0.100		"							
Heptachlor	ND	0.100		"							
Aldrin	ND	0.100		"							
Heptachlor epoxide	ND	0.100		"							
gamma-Chlordane	ND	0.100		"							
Endosulfan I	ND	0.100		"							
alpha-Chlordane	ND	0.100		"							
4,4'-DDE	ND	0.100		"							
Dieldrin	ND	0.100		"							
Endrin	ND	0.100		"							
Endosulfan II	ND	0.100		"							
4,4'-DDD	ND	0.100		"							
Endrin aldehyde	ND	0.100		"							
Endosulfan sulfate	ND	0.100		"							
4,4'-DDT	ND	0.100		"							
Endrin Ketone	ND	0.100		"							
Methoxychlor	ND	0.100		"							

LCS (AZF0252-BS1)

Prepared & Analyzed: 06/23/16

<i>Surrogate: Decachlorobiphenyl</i>	0.412			ug/l	0.600		68.7	50-150			
<i>Surrogate: Tetrachloro-meta-xylene</i>	0.356			"	0.400		89.0	50-150			
gamma-BHC (Lindane)	0.533	0.100		"	0.600		88.8	50-150			
Heptachlor	0.572	0.100		"	0.600		95.3	50-150			
Aldrin	0.552	0.100		"	0.600		92.1	50-150			
Dieldrin	0.585	0.100		"	0.600		97.5	50-150			
Endrin	0.564	0.100		"	0.600		94.0	50-150			
4,4'-DDT	0.561	0.100		"	0.600		93.5	50-150			

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0252 - EPA 8081A

LCS Dup (AZF0252-BSD1)

Prepared & Analyzed: 06/23/16

<i>Surrogate: Decachlorobiphenyl</i>	<i>0.406</i>			<i>ug/l</i>	<i>0.600</i>		<i>67.7</i>	<i>50-150</i>			
<i>Surrogate: Tetrachloro-meta-xylene</i>	<i>0.368</i>			<i>"</i>	<i>0.400</i>		<i>92.1</i>	<i>50-150</i>			
gamma-BHC (Lindane)	0.538	0.100		"	0.600		89.6	50-150	0.932	25	
Heptachlor	0.568	0.100		"	0.600		94.6	50-150	0.739	25	
Aldrin	0.543	0.100		"	0.600		90.5	50-150	1.78	25	
Dieldrin	0.569	0.100		"	0.600		94.9	50-150	2.68	25	
Endrin	0.549	0.100		"	0.600		91.5	50-150	2.67	25	
4,4'-DDT	0.551	0.100		"	0.600		91.9	50-150	1.74	25	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

PCBs by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0252 - EPA 8082

Blank (AZF0252-BLK1)

Prepared & Analyzed: 06/23/16

Surrogate: Decachlorobiphenyl	0.258			ug/l	0.400		64.4	50-150			
Surrogate: Tetrachloro-meta-xylene	0.376			"	0.400		93.9	50-150			
Aroclor 1016	ND	1.00		"							
Aroclor 1221	ND	1.00		"							
Aroclor 1232	ND	1.00		"							
Aroclor 1242	ND	1.00		"							
Aroclor 1248	ND	1.00		"							
Aroclor 1254	ND	1.00		"							
Aroclor 1260	ND	1.00		"							

LCS (AZF0252-BS2)

Prepared & Analyzed: 06/23/16

Surrogate: Decachlorobiphenyl	0.284			ug/l	0.400		71.0	50-150			
Surrogate: Tetrachloro-meta-xylene	0.339			"	0.400		84.7	50-150			
Aroclor 1260	16.1	1.00		"	20.0		80.4	50-150			

LCS Dup (AZF0252-BSD2)

Prepared & Analyzed: 06/23/16

Surrogate: Decachlorobiphenyl	0.274			ug/l	0.400		68.6	50-150			
Surrogate: Tetrachloro-meta-xylene	0.335			"	0.400		83.9	50-150			
Aroclor 1260	16.4	1.00		"	20.0		82.0	50-150	1.91	50	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

SemiVolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0303 - EPA 8270C

Blank (AZF0303-BLK1)

Prepared: 06/27/16 Analyzed: 06/28/16

Surrogate: 2-Fluorophenol	29.3			ug/l	50.0		58.5	10-130			
Surrogate: Phenol-d6	30.4			"	50.0		60.7	10-130			
Surrogate: Nitrobenzene-d5	30.6			"	50.0		61.3	10-130			
Surrogate: 2-Fluorobiphenyl	32.2			"	50.0		64.4	10-130			
Surrogate: 2,4,6-Tribromophenol	27.1			"	50.0		54.2	10-130			
Surrogate: Terphenyl-d14	32.1			"	50.0		64.3	10-130			
N-Nitrosodimethylamine	ND	2.0		"							
Aniline	ND	2.0		"							
Bis(2-chloroethyl)ether	ND	2.0		"							
Phenol	ND	2.0		"							
2-Chlorophenol	ND	2.0		"							
1,4-Dichlorobenzene	ND	2.0		"							
Benzyl alcohol	ND	2.0		"							
Bis(2-chloroisopropyl)ether	ND	2.0		"							
2-Methylphenol	ND	2.0		"							
Hexachloroethane	ND	2.0		"							
N-Nitrosodi-n-propylamine	ND	2.0		"							
Nitrobenzene	ND	2.0		"							
Isophorone	ND	2.0		"							
2-Nitrophenol	ND	5.0		"							
2,4-Dimethylphenol	ND	2.0		"							
Bis(2-chloroethoxy)methane	ND	2.0		"							
Benzoic acid	ND	30.0		"							
2,4-Dichlorophenol	ND	2.0		"							
1,2,4-Trichlorobenzene	ND	2.0		"							
Naphthalene	ND	2.0		"							
Hexachlorobutadiene	ND	2.0		"							
4-Chloro-3-methylphenol	ND	2.0		"							
2-Methylnaphthalene	ND	2.0		"							
Hexachlorocyclopentadiene	ND	2.0		"							
2,4,6-Trichlorophenol	ND	5.0		"							
2,4,5-Trichlorophenol	ND	5.0		"							
2-Chloronaphthalene	ND	2.0		"							
2-Nitroaniline	ND	2.0		"							
Acenaphthylene	ND	2.0		"							
Dimethyl phthalate	ND	2.0		"							
2,6-Dinitrotoluene	ND	2.0		"							
Acenaphthene	ND	2.0		"							
2,4-Dinitrophenol	ND	10.0		"							

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

SemiVolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0303 - EPA 8270C

Blank (AZF0303-BLK1)

Prepared: 06/27/16 Analyzed: 06/28/16

Dibenzofuran	ND	2.0		ug/l
2,4-Dinitrotoluene	ND	2.0		"
4-Nitrophenol	ND	5.0		"
Fluorene	ND	2.0		"
4-Chlorophenyl phenyl ether	ND	2.0		"
Diethyl phthalate	ND	2.0		"
Azobenzene	ND	2.0		"
4,6-Dinitro-2-methylphenol	ND	10.0		"
N-Nitrosodiphenylamine	ND	2.0		"
4-Bromophenyl phenyl ether	ND	2.0		"
Hexachlorobenzene	ND	2.0		"
Pentachlorophenol	ND	10.0		"
Phenanthrene	ND	2.0		"
Anthracene	ND	2.0		"
Carbazole	ND	2.0		"
Di-n-butyl phthalate	ND	2.0		"
Fluoranthene	ND	2.0		"
Benidine	ND	5.0		"
Pyrene	ND	2.0		"
Butyl benzyl phthalate	ND	2.0		"
3,3'-Dichlorobenzidine	ND	5.0		"
Benzo (a) anthracene	ND	2.0		"
Chrysene	ND	2.0		"
Bis(2-ethylhexyl)phthalate	ND	5.0		"
Di-n-octyl phthalate	ND	5.0		"
Benzo (b) fluoranthene	ND	2.0		"
Benzo (k) fluoranthene	ND	2.0		"
Benzo (a) pyrene	ND	5.0		"
Indeno (1,2,3-cd) pyrene	ND	5.0		"
Dibenz (a,h) anthracene	ND	2.0		"
Benzo (g,h,i) perylene	ND	2.0		"
3-Methylphenol & 4-Methylphenol	ND	50.0		"

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

SemiVolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0303 - EPA 8270C

LCS (AZF0303-BS1)

Prepared: 06/27/16 Analyzed: 06/28/16


Surrogate: 2-Fluorophenol	36.5			ug/l	50.0		72.9	0-150			
Surrogate: Phenol-d6	34.8			"	50.0		69.7	0-150			
Surrogate: Nitrobenzene-d5	36.2			"	50.0		72.4	0-150			
Surrogate: 2-Fluorobiphenyl	39.3			"	50.0		78.7	0-150			
Surrogate: 2,4,6-Tribromophenol	43.7			"	50.0		87.4	0-150			
Surrogate: Terphenyl-d14	41.2			"	50.0		82.5	0-150			
Phenol	48.9	2.0		"	75.0		65.2	0-150			
2-Chlorophenol	45.9	2.0		"	75.0		61.2	0-150			
1,4-Dichlorobenzene	32.6	2.0		"	50.0		65.3	0-150			
N-Nitrosodi-n-propylamine	39.9	2.0		"	50.0		79.8	0-150			
1,2,4-Trichlorobenzene	35.7	2.0		"	50.0		71.3	0-150			
4-Chloro-3-methylphenol	55.8	2.0		"	75.0		74.4	0-150			
Acenaphthene	35.7	2.0		"	50.0		71.4	0-150			
2,4-Dinitrotoluene	39.5	2.0		"	50.0		79.1	0-150			
4-Nitrophenol	55.1	5.0		"	75.0		73.5	0-150			
Pentachlorophenol	55.5	10.0		"	75.0		74.0	0-150			
Pyrene	39.0	2.0		"	50.0		78.0	0-150			

LCS Dup (AZF0303-BSD1)

Prepared: 06/27/16 Analyzed: 06/28/16

Surrogate: 2-Fluorophenol	34.2			ug/l	50.0		68.4	0-150			
Surrogate: Phenol-d6	34.8			"	50.0		69.6	0-150			
Surrogate: Nitrobenzene-d5	35.8			"	50.0		71.5	0-150			
Surrogate: 2-Fluorobiphenyl	35.2			"	50.0		70.5	0-150			
Surrogate: 2,4,6-Tribromophenol	40.9			"	50.0		81.7	0-150			
Surrogate: Terphenyl-d14	41.9			"	50.0		83.8	0-150			
Phenol	50.0	2.0		"	75.0		66.7	0-150	2.31	30	
2-Chlorophenol	44.2	2.0		"	75.0		58.9	0-150	3.89	30	
1,4-Dichlorobenzene	31.5	2.0		"	50.0		63.0	0-150	3.55	30	
N-Nitrosodi-n-propylamine	37.7	2.0		"	50.0		75.3	0-150	5.70	30	
1,2,4-Trichlorobenzene	35.1	2.0		"	50.0		70.1	0-150	1.70	30	
4-Chloro-3-methylphenol	55.4	2.0		"	75.0		73.9	0-150	0.684	30	
Acenaphthene	33.1	2.0		"	50.0		66.1	0-150	7.62	30	
2,4-Dinitrotoluene	38.1	2.0		"	50.0		76.2	0-150	3.68	30	
4-Nitrophenol	53.1	5.0		"	75.0		70.8	0-150	3.70	50	
Pentachlorophenol	55.8	10.0		"	75.0		74.4	0-150	0.485	50	
Pyrene	39.5	2.0		"	50.0		78.9	0-150	1.20	30	

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Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Organophosphorus Pesticides - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0309 - EPA 8141A

Blank (AZF0309-BLK1)

Prepared: 06/27/16 Analyzed: 06/30/16

Surrogate: Tributylphosphate	0.378			ug/l	0.400		94.5	50-170			
Surrogate: Triphenyl phosphate	0.413			"	0.400		103	50-170			
Dichlorvos	ND	0.200		"							
Mevinphos	ND	0.200		"							
TEPP	ND	0.200		"							
Demeton	ND	0.200		"							
Demeton-O	ND	0.200		"							
Ethoprop	ND	0.200		"							
Naled	ND	0.200		"							
Sulfotep	ND	0.200		"							
Monocrotophos	ND	0.400		"							
Phorate	ND	0.200		"							
Demeton-S	ND	0.200		"							
Dimethoate	ND	0.200		"							
Diazinon	ND	0.200		"							
Disulfoton	ND	0.200		"							
Parathion-methyl	ND	0.200		"							
Ronnel	ND	0.200		"							
Malathion	ND	0.200		"							
Dursban (Chlorpyrifos)	ND	0.200		"							
Fenthion	ND	0.200		"							
Parathion	ND	0.200		"							
Trichloronate	ND	0.200		"							
Gardona (Stirophos)	ND	0.200		"							
Tokuthion (Prothiofos)	ND	0.200		"							
Merphos	ND	0.200		"							
Fensulfothion	ND	0.200		"							
Bolstar	ND	0.200		"							
EPN	ND	0.200		"							
Azinphos-methyl	ND	0.200		"							
Coumaphos	ND	0.200		"							
Molinate	ND	0.200		"							

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Organophosphorus Pesticides - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0309 - EPA 8141A

LCS (AZF0309-BS1)

Prepared: 06/27/16 Analyzed: 06/30/16

Surrogate: Tributylphosphate	0.392			ug/l	0.400		98.1	50-170			
Surrogate: Triphenyl phosphate	0.445			"	0.400		111	50-170			
Phorate	0.304	0.200		"	0.400		75.9	40-130			
Diazinon	0.259	0.200		"	0.400		64.7	40-130			
Dursban (Chlorpyrifos)	0.338	0.200		"	0.400		84.5	40-130			
Trichloronate	0.207	0.200		"	0.400		51.7	40-130			

LCS Dup (AZF0309-BSD1)

Prepared: 06/27/16 Analyzed: 06/30/16

Surrogate: Tributylphosphate	0.385			ug/l	0.400		96.1	50-170			
Surrogate: Triphenyl phosphate	0.440			"	0.400		110	50-170			
Phorate	0.299	0.200		"	0.400		74.7	40-130	1.70	30	
Diazinon	0.233	0.200		"	0.400		58.2	40-130	10.6	30	
Dursban (Chlorpyrifos)	0.332	0.200		"	0.400		83.0	40-130	1.77	30	
Trichloronate	0.230	0.200		"	0.400		57.6	40-130	10.7	30	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Herbicides - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0024 - EPA 8151A

Blank (AZG0024-BLK1)

Prepared: 06/23/16 Analyzed: 07/08/16

<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	<i>2.11</i>			<i>ug/l</i>	<i>3.20</i>		<i>65.9</i>	<i>43-169</i>			
Dalapon	ND	0.600		"							
3,5-Dichlorobenzoic acid	ND	0.800		"							
4-Nitrophenol	ND	0.600		"							
Dicamba	ND	0.400		"							
MCPP	ND	10.0		"							
Dichloroprop	ND	0.800		"							
2,4-D	ND	0.400		"							
Pentachlorophenol	ND	0.300		"							
2,4,5-TP (Silvex)	ND	0.500		"							
2,4,5-T	ND	0.500		"							
Chloramben	ND	0.800		"							
Dinoseb	ND	0.400		"							
2,4-DB	ND	0.800		"							
Bentazon	ND	0.600		"							
DCPA	ND	0.400		"							
Picloram	ND	0.800		"							
Acifluorfen	ND	0.800		"							

LCS (AZG0024-BS1)

Prepared: 06/23/16 Analyzed: 07/08/16


<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	<i>1.93</i>			<i>ug/l</i>	<i>3.20</i>		<i>60.2</i>	<i>50-180</i>			
Dichloroprop	1.10	0.800		"	2.00		55.0	50-150			
2,4-D	1.00	0.400		"	2.00		50.1	50-150			
2,4,5-TP (Silvex)	1.06	0.500		"	2.00		53.2	50-150			
2,4,5-T	1.12	0.500		"	2.00		56.0	50-150			
Dinoseb	1.06	0.400		"	2.00		53.0	50-150			

LCS Dup (AZG0024-BSD1)

Prepared: 06/23/16 Analyzed: 07/20/16

<i>Surrogate: 2,4-Dichlorophenylacetic acid</i>	<i>5.15</i>			<i>ug/l</i>	<i>3.20</i>		<i>161</i>	<i>50-180</i>			
Dichloroprop	1.08	0.800		"	2.00		54.0	50-150	1.82	30	
2,4-D	1.25	0.400		"	2.00		62.7	50-150	22.4	30	
2,4,5-TP (Silvex)	1.09	0.500		"	2.00		54.7	50-150	2.88	30	
2,4,5-T	1.00	0.500		"	2.00		50.0	50-150	11.2	30	
Dinoseb	1.04	0.400		"	2.00		52.1	50-150	1.82	30	

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Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0256 - EPA 300.0

Blank (AZF0256-BLK1)

Prepared & Analyzed: 06/22/16

Fluoride	ND	0.1		mg/L							
Chloride	ND	0.5		"							
Nitrate as Nitrogen	ND	0.11		"							
Nitrite as Nitrogen	ND	0.15		"							
Sulfate as SO4	ND	0.5		"							

LCS (AZF0256-BS1)

Prepared & Analyzed: 06/22/16

Fluoride	10.1	0.1		mg/L	10.0		101	90-110			
Chloride	10.0	0.5		"	10.0		100	90-110			
Nitrate as Nitrogen	2.27	0.11		"	2.26		100	90-110			
Nitrite as Nitrogen	3.05	0.15		"	3.05		99.9	90-110			
Sulfate as SO4	10.0	0.5		"	10.0		100	80-120			

LCS Dup (AZF0256-BSD1)

Prepared & Analyzed: 06/22/16

Fluoride	10.1	0.1		mg/L	10.0		101	90-110	0.822	20	
Chloride	9.9	0.5		"	10.0		99.4	90-110	1.01	20	
Nitrate as Nitrogen	2.23	0.11		"	2.26		98.8	90-110	1.73	20	
Nitrite as Nitrogen	3.04	0.15		"	3.05		99.6	90-110	0.280	20	
Sulfate as SO4	9.9	0.5		"	10.0		98.8	80-120	1.42	20	

Duplicate (AZF0256-DUP1)

Source: 1606176-01

Prepared & Analyzed: 06/22/16

Fluoride	ND	0.1		mg/L		ND					20
Chloride	1.7	0.5		"		1.8			3.04		20
Nitrate as Nitrogen	0.02	0.11		"		0.02			1.08		20
Nitrite as Nitrogen	ND	0.15		"		ND					20
Sulfate as SO4	2.7	0.5		"		2.8			3.58		20

Matrix Spike (AZF0256-MS1)

Source: 1606176-01

Prepared & Analyzed: 06/22/16

Fluoride	9.8	0.1		mg/L	10.0	ND	98.2	75-125			
Chloride	11.7	0.5		"	10.0	1.8	98.9	75-125			
Nitrate as Nitrogen	2.25	0.11		"	2.26	0.02	98.7	75-125			
Nitrite as Nitrogen	3.03	0.15		"	3.05	ND	99.2	75-125			
Sulfate as SO4	12.7	0.5		"	10.0	2.8	98.5	75-125			

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0256 - EPA 300.0

Matrix Spike Dup (AZF0256-MSD1)		Source: 1606176-01			Prepared & Analyzed: 06/22/16						
Fluoride	9.8	0.1		mg/L	10.0	ND	98.5	75-125	0.254	20	
Chloride	11.7	0.5		"	10.0	1.8	99.1	75-125	0.162	20	
Nitrate as Nitrogen	2.28	0.11		"	2.26	0.02	99.8	75-125	1.09	20	
Nitrite as Nitrogen	3.05	0.15		"	3.05	ND	100	75-125	0.800	20	
Sulfate as SO4	12.7	0.5		"	10.0	2.8	99.0	75-125	0.346	20	

Batch AZF0337 - EPA 314.0

Blank (AZF0337-BLK1)		Prepared: 06/28/16 Analyzed: 06/30/16									
Perchlorate	ND	2.00		ug/l							
LCS (AZF0337-BS1)		Prepared: 06/28/16 Analyzed: 06/30/16									
Perchlorate	10.7	2.00		ug/l	10.0		107	85-115			
LCS Dup (AZF0337-BSD1)		Prepared: 06/28/16 Analyzed: 06/30/16									
Perchlorate	10.5	2.00		ug/l	10.0		105	85-115	2.58	20	
Duplicate (AZF0337-DUP1)		Source: 1606077-03			Prepared: 06/28/16 Analyzed: 06/30/16						
Perchlorate	ND	2.00		ug/l		ND				15	
Matrix Spike (AZF0337-MS1)		Source: 1606077-03			Prepared: 06/28/16 Analyzed: 06/30/16						
Perchlorate	9.00	2.00		ug/l	10.0	ND	90.0	80-120			
Matrix Spike Dup (AZF0337-MSD1)		Source: 1606077-03			Prepared: 06/28/16 Analyzed: 06/30/16						
Perchlorate	10.3	2.00		ug/l	10.0	ND	103	80-120	13.4	20	

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0017 - EPA 7196

Blank (AZG0017-BLK1)

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	ND	0.020		mg/kg							
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Duplicate (AZG0017-DUP1)

Source: 1606176-02

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	ND	0.020		mg/kg		ND				20	
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Matrix Spike (AZG0017-MS1)

Source: 1606176-02

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	0.310	0.020		mg/kg	0.300	ND	103	75-125			
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Matrix Spike Dup (AZG0017-MSD1)

Source: 1606176-02

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	0.300	0.020		mg/kg	0.300	ND	100	75-125	3.28	20	
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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0264 - SM 4500-H+ B

Duplicate (AZF0264-DUP1)		Source: 1606160-02			Prepared & Analyzed: 06/21/16						
pH	6.47	0.100		pH Units		6.44			0.465	20	Field

Batch AZF0266 - EPA 120.1

Duplicate (AZF0266-DUP1)		Source: 1606164-02			Prepared & Analyzed: 06/22/16						
Specific Conductance (EC)	584	5.00		uS/cm		586			0.171	20	

Duplicate (AZF0266-DUP2)		Source: 1606147-01			Prepared & Analyzed: 06/22/16						
Specific Conductance (EC)	372	5.00		uS/cm		370			0.566	20	

Batch AZF0277 - SM5540C

Blank (AZF0277-BLK1)					Prepared: 06/22/16 Analyzed: 06/23/16						
MBAS	ND	0.100		mg/L							

LCS (AZF0277-BS1)					Prepared: 06/22/16 Analyzed: 06/23/16						
MBAS	0.536	0.100		mg/L	0.500		107	90-110			

LCS Dup (AZF0277-BSD1)					Prepared: 06/22/16 Analyzed: 06/23/16						
MBAS	0.542	0.100		mg/L	0.500		108	90-110	1.11	15	

Batch AZF0314 - SM2340B

Blank (AZF0314-BLK1)					Prepared & Analyzed: 06/29/16						
Total Hardness	ND	5.00		mg/L							

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670


Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AZF0314 - SM2340B											
LCS (AZF0314-BS1)					Prepared & Analyzed: 06/29/16						
Total Hardness	50.0	5.00		mg/L	50.0		100	80-120			
LCS Dup (AZF0314-BSD1)					Prepared & Analyzed: 06/29/16						
Total Hardness	50.0	5.00		mg/L	50.0		100	80-120	0.00	20	
Duplicate (AZF0314-DUP1)					Source: 1606210-01		Prepared & Analyzed: 06/29/16				
Total Hardness	116	5.00		mg/L		116			0.00	20	
Matrix Spike (AZF0314-MS1)					Source: 1606210-01		Prepared & Analyzed: 06/29/16				
Total Hardness	164	5.00		mg/L	50.0	116	96.0	75-125			
Matrix Spike Dup (AZF0314-MSD1)					Source: 1606210-01		Prepared & Analyzed: 06/29/16				
Total Hardness	172	5.00		mg/L	50.0	116	112	75-125	4.76	20	
Batch AZF0319 - SM 2540C											
Blank (AZF0319-BLK1)					Prepared: 06/24/16 Analyzed: 06/29/16						
Total Dissolved Solids	ND	15.0		mg/L							
Duplicate (AZF0319-DUP1)					Source: 1606179-01		Prepared: 06/24/16 Analyzed: 06/29/16				
Total Dissolved Solids	272	15.0		mg/L		272			0.00	20	
Batch AZF0324 - SM 4500CN E											
Blank (AZF0324-BLK1)					Prepared: 06/28/16 Analyzed: 06/29/16						
Cyanide	ND	0.00500		mg/L							

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0324 - SM 4500CN E

LCS (AZF0324-BS1)					Prepared: 06/28/16 Analyzed: 06/29/16						
Cyanide	0.0940	0.00500		mg/L	0.100		94.0	70-130			
LCS Dup (AZF0324-BSD1)					Prepared: 06/28/16 Analyzed: 06/29/16						
Cyanide	0.0950	0.00500		mg/L	0.100		95.0	70-130	1.06	30	
Matrix Spike (AZF0324-MS1)					Source: 1606176-01		Prepared: 06/28/16 Analyzed: 06/29/16				
Cyanide	0.0970	0.00500		mg/L	0.100	0.00100	96.0	70-130			
Matrix Spike Dup (AZF0324-MSD1)					Source: 1606176-01		Prepared: 06/28/16 Analyzed: 06/29/16				
Cyanide	0.104	0.00500		mg/L	0.100	0.00100	103	70-130	6.97	30	

Batch AZF0330 - SM2320B

Blank (AZF0330-BLK1)					Prepared & Analyzed: 06/30/16						
Total Alkalinity	ND	5.00		mg/L							
LCS (AZF0330-BS1)					Prepared & Analyzed: 06/30/16						
Total Alkalinity	118	5.00		mg/L	100		118	80-120			
LCS Dup (AZF0330-BSD1)					Prepared & Analyzed: 06/30/16						
Total Alkalinity	120	5.00		mg/L	100		120	80-120	1.68	20	
Duplicate (AZF0330-DUP1)					Source: 1606176-01		Prepared & Analyzed: 06/30/16				
Total Alkalinity	ND	5.00		mg/L		40.0				20	
Matrix Spike (AZF0330-MS1)					Source: 1606176-01		Prepared & Analyzed: 06/30/16				
Total Alkalinity	158	5.00		mg/L	100	40.0	118	80-120			

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZF0330 - SM2320B

Matrix Spike Dup (AZF0330-MSD1)

Source: 1606176-01

Prepared & Analyzed: 06/30/16

Total Alkalinity	154	5.00		mg/L	100	40.0	114	80-120	2.56	20	
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Batch AZG0023 - EPA 7196

Blank (AZG0023-BLK1)

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	ND	15.0		ug/l							
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LCS (AZG0023-BS1)

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	290	15.0		ug/l	300		96.7	80-120			
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LCS Dup (AZG0023-BSD1)

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	300	15.0		ug/l	300		100	80-120	3.39	20	
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Duplicate (AZG0023-DUP1)

Source: 1606176-01

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	ND	15.0		ug/l		ND				200	
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Matrix Spike (AZG0023-MS1)

Source: 1606176-01

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	310	15.0		ug/l	300	ND	103	75-125			
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Matrix Spike Dup (AZG0023-MSD1)

Source: 1606176-01

Prepared & Analyzed: 07/05/16

Hexavalent Chromium	300	15.0		ug/l	300	ND	100	75-125	3.28	20	
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Batch AZG0068 - SM 4500-NH3 B/H

Blank (AZG0068-BLK1)

Prepared & Analyzed: 07/08/16

Ammonia as N	ND	0.100		mg/L							
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Excelchem Environmental Lab.



Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0068 - SM 4500-NH3 B/H

LCS (AZG0068-BS1)

Prepared & Analyzed: 07/08/16

Ammonia as N	2.01	0.100		mg/L	2.00	100	85-115
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LCS Dup (AZG0068-BS1)

Prepared & Analyzed: 07/08/16

Ammonia as N	1.94	0.100		mg/L	2.00	96.8	85-115	3.50	20
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Matrix Spike (AZG0068-MS1)

Source: 1606192-03

Prepared & Analyzed: 07/08/16

Ammonia as N	2.08	0.100		mg/L	2.00	0.196	94.0	75-125
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Matrix Spike Dup (AZG0068-MS1)

Source: 1606192-03

Prepared & Analyzed: 07/08/16

Ammonia as N	2.06	0.100		mg/L	2.00	0.196	93.4	75-125	0.579	20
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Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Total Recoverable Metals - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0050 - EPA 200.7

Blank (AZG0050-BLK1)

Prepared & Analyzed: 07/07/16

Aluminum	ND	50.0		ug/l							
Boron	ND	50.0		"							
Barium	ND	5.0		"							
Calcium	ND	100		"							
Copper	ND	5.0		"							
Iron	ND	20.0		"							
Magnesium	ND	50.0		"							
Manganese	ND	10.0		"							
Sodium	ND	200		"							
Thallium	ND	20.0		"							
Zinc	ND	10.0		"							

LCS (AZG0050-BS1)

Prepared & Analyzed: 07/07/16


Aluminum	1060	50.0		ug/l	1000		106	85-115			
Boron	942	50.0		"	1000		94.2	85-115			
Barium	1080	5.0		"	1000		108	85-115			
Calcium	1100	100		"	1000		110	85-115			
Copper	1120	5.0		"	1000		112	85-115			
Iron	1090	20.0		"	1000		109	85-115			
Magnesium	1090	50.0		"	1000		109	85-115			
Manganese	1080	10.0		"	1000		108	85-115			
Sodium	1090	200		"	1000		109	85-115			
Thallium	1060	20.0		"	1000		106	85-115			
Zinc	1060	10.0		"	1000		106	85-115			

LCS Dup (AZG0050-BSD1)

Prepared & Analyzed: 07/07/16

Aluminum	1070	50.0		ug/l	1000		107	85-115	0.943	20	
Boron	948	50.0		"	1000		94.8	85-115	0.614	20	
Barium	1080	5.0		"	1000		108	85-115	0.185	20	
Calcium	1110	100		"	1000		111	85-115	0.726	20	
Copper	1120	5.0		"	1000		112	85-115	0.268	20	
Iron	1100	20.0		"	1000		110	85-115	1.01	20	
Magnesium	1090	50.0		"	1000		109	85-115	0.0918	20	
Manganese	1080	10.0		"	1000		108	85-115	0.00	20	
Sodium	1060	200		"	1000		106	85-115	3.63	20	
Thallium	1070	20.0		"	1000		107	85-115	0.753	20	
Zinc	1060	10.0		"	1000		106	85-115	0.471	20	

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Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Total Recoverable Metals - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0050 - EPA 200.7

Matrix Spike (AZG0050-MS1)			Source: 1607005-01		Prepared & Analyzed: 07/07/16						
Aluminum	1120	50.0		ug/l	1000	42.7	107	75-125			
Boron	983	50.0		"	1000	27.4	95.6	75-125			
Barium	1150	5.0		"	1000	71.2	108	75-125			
Calcium	27400	100		"	1000	26700	64.0	75-125			QL-01
Copper	1040	5.0		"	1000	4.70	104	75-125			
Iron	1090	20.0		"	1000	50.7	104	75-125			
Magnesium	17600	50.0		"	1000	16900	72.0	75-125			QL-01
Manganese	1040	10.0		"	1000	11.8	103	75-125			
Sodium	26900	200		"	1000	26200	76.0	75-125			
Thallium	984	20.0		"	1000	ND	98.4	75-125			
Zinc	1050	10.0		"	1000	22.3	103	75-125			

Matrix Spike Dup (AZG0050-MSD1)			Source: 1607005-01		Prepared & Analyzed: 07/07/16						
Boron	980	50.0		ug/l	1000	27.4	95.3	75-125	0.336	25	
Aluminum	1090	50.0		"	1000	42.7	105	75-125	1.90	25	
Barium	1140	5.0		"	1000	71.2	107	75-125	0.524	25	
Calcium	27900	100		"	1000	26700	113	75-125	1.77	25	
Copper	1080	5.0		"	1000	4.70	107	75-125	2.92	25	
Iron	1120	20.0		"	1000	50.7	107	75-125	2.89	25	
Magnesium	18000	50.0		"	1000	16900	106	75-125	1.91	25	
Manganese	1080	10.0		"	1000	11.8	107	75-125	3.69	25	
Sodium	27200	200		"	1000	26200	104	75-125	1.03	25	
Thallium	1000	20.0		"	1000	ND	100	75-125	1.84	25	
Zinc	1080	10.0		"	1000	22.3	106	75-125	3.10	25	

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Dissolved Metals - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AZG0077 - EPA 200.7

Blank (AZG0077-BLK1)

Prepared: 07/05/16 Analyzed: 07/11/16

Dissolved Aluminum	ND	50.0		ug/l							
Dissolved Lead	ND	5.0		"							
Dissolved Arsenic	ND	10.0		"							
Dissolved Iron	ND	20.0		"							

LCS (AZG0077-BS1)

Prepared: 07/05/16 Analyzed: 07/11/16

Dissolved Aluminum	1040	50.0		ug/l	1000		104	85-115			
Dissolved Arsenic	991	10.0		"	1000		99.1	85-115			
Dissolved Lead	1000	5.0		"	1000		100	85-115			
Dissolved Iron	1040	20.0		"	1000		104	85-115			

LCS Dup (AZG0077-BS1)

Prepared: 07/05/16 Analyzed: 07/11/16

Dissolved Aluminum	1030	50.0		ug/l	1000		103	85-115	1.45	20	
Dissolved Lead	1000	5.0		"	1000		100	85-115	0.00	20	
Dissolved Arsenic	986	10.0		"	1000		98.6	85-115	0.506	20	
Dissolved Iron	1030	20.0		"	1000		103	85-115	0.678	20	

Matrix Spike (AZG0077-MS1)

Source: 1606176-01

Prepared: 07/05/16 Analyzed: 07/11/16

Dissolved Aluminum	1050	50.0		ug/l	1000	ND	105	75-125			
Dissolved Arsenic	989	10.0		"	1000	ND	98.9	75-125			
Dissolved Lead	986	5.0		"	1000	ND	98.6	75-125			
Dissolved Iron	1070	20.0		"	1000	43.4	102	75-125			


Matrix Spike Dup (AZG0077-MSD1)

Source: 1606176-01

Prepared: 07/05/16 Analyzed: 07/11/16

Dissolved Aluminum	1050	50.0		ug/l	1000	ND	105	75-125	0.476	25	
Dissolved Arsenic	988	10.0		"	1000	ND	98.8	75-125	0.0506	25	
Dissolved Lead	988	5.0		"	1000	ND	98.8	75-125	0.132	25	
Dissolved Iron	1070	20.0		"	1000	43.4	103	75-125	0.187	25	

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

EPA 8321A - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A608160 - EPA 8321A

MB (A608160-BLK1)

Prepared & Analyzed: 07/04/16

<i>Surrogate: BDMC</i>	<i>1.9</i>				<i>2</i>		<i>97</i>	<i>50-150</i>			
Methiocarb	ND	1		ug/L				-			
Methomyl	ND	1		"				-			
Linuron	ND	1		"				-			
Diuron	ND	1		"				-			
Carbofuran	ND	1		"				-			
Carbaryl	ND	1		"				-			
Aldicarb sulfoxide	ND	1		"				-			
Aldicarb sulfone	ND	1		"				-			
Propoxur	ND	1		"				-			
Aldicarb	ND	1		"				-			
3-Hydroxycarbofuran	ND	1		"				-			
Oxamyl	ND	1		"				-			

BS (A608160-BS1)

Prepared & Analyzed: 07/04/16

<i>Surrogate: BDMC</i>	<i>2</i>				<i>2</i>		<i>99</i>	<i>50-150</i>			
Aldicarb sulfoxide	0.39			ug/L	0.4		97	50-150			
Propoxur	0.39			"	0.4		97	50-150			
Methiocarb	0.36			"	0.4		90	50-150			
Diuron	0.38			"	0.4		94	50-150			
Oxamyl	0.38			"	0.4		95	50-150			
Carbofuran	0.39			"	0.4		97	50-150			
Methomyl	0.4			"	0.4		100	50-150			
Linuron	0.39			"	0.4		96	50-150			
Aldicarb	0.39			"	0.4		98	50-150			
Aldicarb sulfone	0.39			"	0.4		98	50-150			
Carbaryl	0.37			"	0.4		92	50-150			
3-Hydroxycarbofuran	0.39			"	0.4		97	50-150			

Excelchem Environmental Lab.



Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

EPA 8321A - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A608160 - EPA 8321A

BSD (A608160-BSD1)

Prepared & Analyzed: 07/04/16

<i>Surrogate: BDMC</i>	2			2	98	50-150				
Aldicarb sulfoxide	0.38			ug/L	0.4	96	50-150	2	30	
Carbofuran	0.39			"	0.4	97	50-150	1	30	
Aldicarb	0.4			"	0.4	99	50-150	0	30	
Propoxur	0.39			"	0.4	98	50-150	2	30	
Aldicarb sulfone	0.38			"	0.4	95	50-150	3	30	
Carbaryl	0.4			"	0.4	99	50-150	7	30	
3-Hydroxycarbofuran	0.41			"	0.4	102	50-150	4	30	
Diuron	0.39			"	0.4	98	50-150	4	30	
Methomyl	0.42			"	0.4	104	50-150	5	30	
Oxamyl	0.38			"	0.4	96	50-150	0	30	
Methiocarb	0.37			"	0.4	92	50-150	1	30	
Linuron	0.38			"	0.4	94	50-150	2	30	


MS (A608160-MS1)

Source: A6F2934-01

Prepared & Analyzed: 07/04/16

<i>Surrogate: BDMC</i>	2			2	101	50-150				
3-Hydroxycarbofuran	0.42			ug/L	0.4	ND	104	50-150		
Aldicarb	0.43			"	0.4	ND	107	50-150		
Diuron	0.41			"	0.4	ND	103	50-150		
Methiocarb	0.42			"	0.4	ND	105	50-150		
Oxamyl	0.41			"	0.4	ND	104	50-150		
Carbaryl	0.4			"	0.4	ND	101	50-150		
Aldicarb sulfone	0.41			"	0.4	ND	103	50-150		
Linuron	0.4			"	0.4	ND	100	50-150		
Methomyl	0.43			"	0.4	ND	107	50-150		
Aldicarb sulfoxide	0.4			"	0.4	ND	100	50-150		
Carbofuran	0.42			"	0.4	ND	104	50-150		
Propoxur	0.4			"	0.4	ND	101	50-150		

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Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

EPA 8321A - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A608160 - EPA 8321A

MSD (A608160-MSD1)

Source: A6F2934-01

Prepared & Analyzed: 07/04/16

<i>Surrogate: BDMC</i>	2		2	100	50-150		
Aldicarb sulfone	0.38	ug/L	0.4	ND	94	50-150	9 30
Propoxur	0.41	"	0.4	ND	102	50-150	1 30
Oxamyl	0.41	"	0.4	ND	104	50-150	0 30
Carbaryl	0.4	"	0.4	ND	99	50-150	2 30
Methomyl	0.42	"	0.4	ND	104	50-150	3 30
Aldicarb	0.41	"	0.4	ND	103	50-150	4 30
Methiocarb	0.39	"	0.4	ND	96	50-150	8 30
3-Hydroxycarbofuran	0.4	"	0.4	ND	99	50-150	6 30
Aldicarb sulfoxide	0.4	"	0.4	ND	101	50-150	1 30
Linuron	0.4	"	0.4	ND	100	50-150	1 30
Diuron	0.38	"	0.4	ND	95	50-150	8 30
Carbofuran	0.4	"	0.4	ND	100	50-150	4 30

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

EPA 8290A - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1464 - EPA 8290A

MB (1464-Blank)

Prepared: 06/28/16 Analyzed: 06/29/16

1,2,3,6,7,8-HxCDD	ND			pg/L				-			DL
OCDF	ND			"				-			DL
1,2,3,6,7,8-HxCDF	ND			"				-			DL
OCDD	ND			"				-			DL
2,3,7,8-TCDF	ND			"				-			DL
1,2,3,7,8,9-HxCDD	ND			"				-			DL
1,2,3,7,8-PeCDD	ND			"				-			DL
1,2,3,7,8,9-HxCDF	ND			"				-			DL
1,2,3,4,7,8-HxCDF	ND			"				-			DL
1,2,3,7,8-PeCDF	ND			"				-			DL
2,3,4,7,8-PeCDF	ND			"				-			DL
2,3,7,8-TCDD	ND			"				-			DL
Total HxCDF	ND			"				-			DL
Total TCDF	ND			"				-			DL
1,2,3,4,6,7,8-HpCDF	ND			"				-			DL
2,3,4,6,7,8-HxCDF	ND			"				-			DL
Total TCDD	ND			"				-			DL
Total PeCDF	ND			"				-			DL
Total PeCDD	ND			"				-			DL
TEQ	ND			"				-			DL
Total HxCDD	ND			"				-			DL
1,2,3,4,7,8,9-HpCDF	ND			"				-			DL
1,2,3,4,7,8-HxCDD	ND			"				-			DL
Total HpCDF	ND			"				-			DL
Total HpCDD	ND			"				-			DL
1,2,3,4,6,7,8-HpCDD	ND			"				-			DL

MS (1464-MS)

Prepared: 06/28/16 Analyzed: 06/29/16

2,3,7,8-TCDF	91.9			%			91.9	-			
OCDD	104			"			104	-			
2,3,7,8-TCDD	106			"			106	-			
2,3,4,7,8-PeCDF	91.4			"			91.4	-			
2,3,4,6,7,8-HxCDF	94			"			94	-			
OCDF	89.7			"			89.7	-			
1,2,3,6,7,8-HxCDF	93.4			"			93.4	-			
1,2,3,4,6,7,8-HpCDD	96			"			96	-			
1,2,3,4,6,7,8-HpCDF	93.4			"			93.4	-			
1,2,3,4,7,8-HxCDD	97			"			97	-			
1,2,3,4,7,8-HxCDF	97.6			"			97.6	-			

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RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

EPA 8290A - Quality Control

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1464 - EPA 8290A

MS (1464-MS)

Prepared: 06/28/16 Analyzed: 06/29/16


1,2,3,4,7,8,9-HpCDF	91.8			%			91.8	-			
1,2,3,6,7,8-HxCDD	99.2			"			99.2	-			
1,2,3,7,8,9-HxCDD	97.2			"			97.2	-			
1,2,3,7,8-PeCDF	91.2			"			91.2	-			
1,2,3,7,8-PeCDD	92.8			"			92.8	-			
1,2,3,7,8,9-HxCDF	100			"			100	-			

MSD (1464-MSD)

Prepared: 06/28/16 Analyzed: 06/29/16

1,2,3,6,7,8-HxCDD	106			%			106	-	6.63		
1,2,3,4,6,7,8-HpCDD	98.4			"			98.4	-	2.47		
2,3,4,6,7,8-HxCDF	94.4			"			94.4	-	0.42		
1,2,3,4,6,7,8-HpCDF	93.6			"			93.6	-	0.21		
1,2,3,4,7,8,9-HpCDF	94.4			"			94.4	-	2.79		
1,2,3,4,7,8-HxCDD	93.8			"			93.8	-	3.35		
1,2,3,7,8-PeCDD	96.8			"			96.8	-	4.22		
OCDD	105			"			105	-	0.96		
2,3,4,7,8-PeCDF	92.8			"			92.8	-	1.52		
OCDF	91.7			"			91.7	-	2.21		
1,2,3,7,8,9-HxCDF	102			"			102	-	1.98		
1,2,3,7,8-PeCDF	93.4			"			93.4	-	2.38		
1,2,3,6,7,8-HxCDF	97			"			97	-	3.78		
1,2,3,7,8,9-HxCDD	99.4			"			99.4	-	2.24		
2,3,7,8-TCDF	91.3			"			91.3	-	0.66		
2,3,7,8-TCDD	111			"			111	-	4.61		
1,2,3,4,7,8-HxCDF	95.6			"			95.6	-	2.07		

Excelchem Environmental Lab.



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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Notes and Definitions

QR-07 Recoveries are outside acceptable QA/QC parameters due to matrix interferences.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

QL-01 Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

J Concentration found below the lower quantitation limit but greater than zero.

Ha Percent recovery for the internal standard is below the method lower control limit. The results were deemed acceptable due to the signal to noise for the internal standard chromatograph peaks being >10:1 and the detection limits calculated off of the

H internal standard were below the method lower detection limit.

Field This analyte was analyzed outside of the EPA recommended hold time of 15 minutes and should be analyzed in the field.

DL Non-Detect (ND) at sample specific detection limit

ND Analyte not detected at the reporting limit.

NR Not reported

Excelchem Environmental Lab.



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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Excelchem Environmental Labs Project Manager: True Khang-MUNICV-SALTS (CVRWQCB) Company/Address: Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive, #200, Rancho Cordova, CA 95670 Project Number: 016 Contract # 13-051-150 State Water Resources Control Board Project Location: Sacramento River Project Name: 2016 Sacramento River Synoptic Sample Name and Signature:		1135 W Sunset Blvd, Suite A Rocklin, CA 95765 PH: 916-541-4465 FX: 916-541-4410 Phone #: 916-454-4508 Electronic Data Deliverables Request Email Address: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Geotracker (Excel ES) <input checked="" type="checkbox"/> Other (please specify) <u>Excel</u> true.khang@waterboards.ca.gov	
Chain-of-Custody Record and Analysis Request Received by Laboratory (Signature and Date) Received by (Signature and Date) Remarks/Condition of Sample: SW= Surface Water		ANALYSIS REQUEST Page 1 of 1 BIN 1606176 BIN A4B, S-11 BIN 100, 101, 102	

Sample ID	Sampling Date	Matrix	Total Bottle #		Preserved? (Mean yes and no both analyzed)	
			Yes	No	Yes	No
TKL6620-10	6/20/2016	SW	3	3	6	1
TKL6620-11	6/20/2016	SW	3	3	6	1
TKL6620-12	6/20/2016	SW	3	3	6	1
TKL6620-13	6/20/2016	SW	3	3	6	1
TKL6620-14	6/20/2016	SW	3	3	6	1
TKL6620-15	6/20/2016	SW	3	3	6	1
TKL6620-16	6/20/2016	SW	3	3	6	1
TKL6620-17	6/20/2016	SW	3	3	6	1

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Analysis	Bottle Type	Perservative	Quantity	Total Ordered (x8)
8260 Volatiles	VOA	N/A	3	24
8270C Semi-Volatiles	1L Amber	N/A	1	8
8081A Organo-Chlorinated Pesticides	1L Amber	N/A	1	8
8082 PCB (Polychlorinated Biphenyls)	1L Amber	N/A	1	8
1613B Dioxins/Furans	1L Amber	N/A	1	8
8151A Chlorinated Pesticides	1L Amber	N/A	1	8
8141 Organo-Phosphorus Pesticides	1L Amber	N/A	1	8
8318 Carbamate Pesticides	VOA	Na2SO3	3	24
Ammonia	125mL Poly	H2SO4	1	8
Metals (Title 22 included)	250mL Poly	HNO3	1	8
Nitrate, Nitrite, Flouride	125mL Poly	N/A	1	8
Perchlorate	125mL Poly	N/A		
Chormium VI	125mL Poly	Cr+6 Buffer	1	8
Cyanide	250mL Poly	NaOH	1	8
Dissolved Metals	1000mL Poly	N/A	1	8
General Minerals	1000mL Poly	N/A		
DI water	Gallon	N/A	4	N/A

Total # Bottles

148

Excelchem Environmental Lab.



Laboratory Representative

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Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Laboratory Analysis Request Form

Instructions: Complete this form referencing Contract No. 13-051-150, Exhibit B, Attachment 1, Laboratory Schedule of Cost Tables (Cost Tables). When completed, please submit (via hard copy or electronically) to the Contract Manager for approval. Do not contact the laboratory until you have received approval from the Contract Manager to proceed.

Date of Request: 5/25/2016 Program CV-SALTS/MUN
Staff Person: True Khang
Sample Location (Name of Discharger): Sacramento River Basin
Date and Time of Departure from Office: 20 June 2016/ 0600
Date and Time of Sampling: 20 June 2016/ 0700-1500
Date and Time of Delivery to Laboratory: 20 June 2016/ 1530-1630
Purpose of Sampling: Synoptic Evaluation of Drinking Water Constituents of Concern in the Sacramento River Basin

Contractor: Excelchem (916) 543-4445 or frontdesk@excelchem.net
Contract Manager: Janelle Brown (916) 464-4823 or Janelle.Brown@waterboards.ca.gov

Bid Group	Analysis Type <small>Please do not abbreviate analysis description, information must match cost table analysis description</small>	Routine or Rush	# of Samples	Unit Cost	Estimated Net Cost
1	Polychlorinated Biphenyls (PCB's)	Routine	8	\$60.00	\$480.00
1	Gas Chromatography/ Mass Spectrometer (GC/MS) Semivolatiles	Routine	8	\$75.00	\$600.00
1	Volatile Organic Compound & Oxygenated Additive	Routine	8	\$125.00	\$1,000.00
1	Poly-Chlorinated-Dibenzo-p-Dioxin/Furan High Resolution Mass Spectrometer (HRMS)	Routine	8	\$500.00	\$4,000.00
1	Drinking Water Volatile Organic Compounds	Routine	8	\$80.00	\$640.00
2	Organo-Chlorinated Pesticide	Routine	8	\$60.00	\$480.00
2	Organo-Phosphorus Pesticide	Routine	8	\$60.00	\$480.00
2	Chlorinated Herbicide	Routine	8	\$60.00	\$480.00
2	1,2-DB-3-CP, 1,2-DCEthene, 1,2,3-TCPPane	Routine	8	\$40.00	\$320.00
2	Carbamate Pesticide	Routine	8	\$125.00	\$1,000.00
4	Perchlorate	Routine	8	\$50.00	\$400.00
7	Aluminum	Routine	8	\$15.00	\$120.00
7	Barium	Routine	8	\$4.00	\$32.00
7	Boron	Routine	8	\$15.00	\$120.00
7	Iron	Routine	8	\$15.00	\$120.00
7	Thallium	Routine	8	\$4.00	\$32.00
9	Sb, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Ti, Zn, As, Th, Cr VI, Cyanide	Routine	8	\$80.00	\$640.00
				Total	\$10,944.00

APPROVED:

Signature Janelle Brown 5/25/2016

Upon approval from the Contract Manager, staff must complete the following steps:

- 1) Contact the Contractor to notify them of the type of samples and analysis that are being requested.
- 2) Request necessary bottles/supplies that are needed for sample preparation from the laboratory. The laboratory will deliver the supplies to our office.
- 3) Collect samples.
- 4) Prepare the samples for delivery.
- 5) Prepare Chain of Custody form. Include original and one copy with the samples for delivery to the laboratory. Keep one copy for your records. Make one additional copy and provide to the Contract Manager.
- 6) Contact the laboratory to schedule sample pick up.

Rev. 3/14/14

Excelchem Environmental Lab.

Signature

Laboratory Representative

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Instructions: Complete this form referencing Contract No. 13-051-150, Exhibit B, Attachment 1, Laboratory Schedule of Cost Tables (Cost Tables). When completed, please submit (via hard copy or electronically) to the Contract Manager for approval. Do not contact the laboratory until you have received approval from the Contract Manager to proceed.

Date of Request: 5/25/2016

Program CV-SALTS/MUN

Staff Person: True Khang

Sample Location (Name of Discharger):

Sacramento River Basin

Date and Time of Departure from Office:

20 June 2016/ 0600

Date and Time of Sampling:

20 June 2016/ 0700-1500

Date and Time of Delivery to Laboratory:

20 June 2016/ 1530-1630

Purpose of Sampling:

Synoptic Evaluation of Drinking Water Constituents of Concern in the Sacramento River Basin

Contractor: Excelchem (916) 543-4445 or frontdesk@excelchem.net
Contract Manager: Janelle Brown (916) 464-4823 or Janelle.Brown@waterboards.ca.gov

Bid Group	Analysis Type <small>Please do not abbreviate analysis description. Information must match cost table analysis description</small>	Routine or Rush	# of Samples	Unit Cost	Estimated Net Cost
14	Flouride Salts	Routine	8	\$5.00	\$40.00
16	Ammonia Nitrogen	Routine	8	\$30.00	\$240.00
16	Nitrate Nitrogen	Routine	8	\$30.00	\$240.00
16	Nitrite Nitrogen	Routine	8	\$10.00	\$80.00
20	General Minerals (Title 22)	Routine	8	\$105.00	\$840.00
23	Aluminum (dissolved)	Routine	8	\$15.00	\$120.00
23	Arsenic (dissolved)	Routine	8	\$20.00	\$160.00
23	Lead (dissolved)	Routine	8	\$15.00	\$120.00
23	Iron (dissolved)	Routine	8	\$15.00	\$120.00
23	1. Filtering fee for dissolved metals \$20/hr/sample (4 dissolved metals)	Routine	8	\$80.00	\$640.00
				Total	\$2,600.00

APPROVED:

Signature Janell Brown 5/25/2016

Upon approval from the Contract Manager, staff must complete the following steps:

- 1) Contact the Contractor to notify them of the type of samples and analysis that are being requested.
- 2) Request necessary bottles/supplies that are needed for sample preparation from the laboratory. The laboratory will deliver the supplies to our office.
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Rev. 3/14/14

Excelchem Environmental Lab.

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John Jones

Laboratory Representative

Excelchem Environmental Labs

RWQC Central Valley
11020 Sun Center Dr. #200
Rancho Cordova, CA 95670

Project: 2016 Sacramento River Synoptic
Project Number: [none]
Project Manager: True Khang

Date Reported:
07/29/16 10:18

Sample Integrity

WORK ORDER_1606176_

Date Received: 06/20/2016

Section 1 – Sample Arrival Info.

Sample Transport: ONTRAC UPS USPS Walk-In EXCELCHEM Courier Fed-Ex Other: _____
Transported In: Ice Chest Box Hand
Describe type of packing materials: Bubble Wrap Foam Packing Peanuts Paper Other: _____
Has chilling process begun? ☒ N Samples Received: Chilled to Touch / Ambient / On Ice
Temperature of Samples (°C): 11 Ice Chest Temperature(s) (°C): 11

Section 2 – Bottle/Analysis Info.

	Yes	No	N/A	Comments
Did all bottles arrive unbroken and intact?	<input checked="" type="checkbox"/>			
Did all bottle labels agree with COC?		<input checked="" type="checkbox"/>		
Were correct containers used for the tests requested?	<input checked="" type="checkbox"/>			
Were correct preservations used for the tests requested?	<input checked="" type="checkbox"/>			
Was a sufficient amount of sample sent for tests indicated?	<input checked="" type="checkbox"/>			
Were bubbles present in VOA Vials?: (Volatile Methods Only)			<input checked="" type="checkbox"/>	1/48 VOA w/ bubbles

Section 3 – Summa/Flow regulator Info.

Used Summa#: _____
Unused Summa#: _____
Cleaning Summa#: _____
Regulator#: _____
Was there any visual damage to summa canisters or flow regulators? **Explain.**

Section 4 – COC Info.

	Completed		Info From Container	Completed		Comments
	Yes	No		Yes	No	
Was COC Received	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Date Sampled	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Time Sampled	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		NO3, NO2
Sample ID	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Rush TAT		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Analysis Requested				<input checked="" type="checkbox"/>		
Samples arrived within holding time				<input checked="" type="checkbox"/>		
Any hold times less than 72 hrs				<input checked="" type="checkbox"/>		
Client Name				<input checked="" type="checkbox"/>		
Address/Telephone #				<input checked="" type="checkbox"/>		

Section 5 – Comments / Discrepancies

Was Client notified of discrepancies: ☒ Yes ☐ No ☐ N/A Notified by: Antoinette Ranit
Explanations / Comments: VOAs labeled "TK160620-16" are actually "TK160620-15"

Samples Labeled by: AR
Bin #: A4B, S-11, 100, 101, 102
COC Scanned/Attached by: AR
Sample labels reviewed by: AR

Filled Antoinette Ranit Date: 06/21/16
Out by: _____ Time: 10:00

Excelchem Environmental Lab.



Laboratory Representative

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